



**A Social Cognitive Investigation into the Self-efficacy Beliefs of Religious Education
Teachers in Australian Catholic High Schools**

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Abstract

The purpose of this investigation was to examine the self-efficacy for religious education (RE) of teachers in Australian Catholic high schools, and to build a model incorporating predictors of self-efficacy for teaching RE. The study drew on data from 42 randomly selected Catholic high schools and 309 Catholic RE teachers from across Australia.

A theoretical framework was developed by positing relationships between self-efficacy for teaching RE and significant constructs associated with the psychology of religion and social cognitive theory. The first of these was collective efficacy for teaching RE, which was hypothesised to relate to self-efficacy for teaching RE, as collective efficacy has been related to self-efficacy in many domains. The second construct was the intrinsic spirituality of the RE teachers, which was hypothesised to predict self-efficacy for teaching RE, as intrinsic spirituality has been found to be a source of motivation and would likely motivate RE teachers. The third construct was concerned with the implicit theories or schemas that RE teachers hold about whether the ability of their students is fixed or malleable. This was hypothesised to be related to self-efficacy for teaching RE, as teachers with a growth theory about student ability are likely to persist in behaviours that lead to experiencing mastery. A social scientific approach was applied to the investigation. A questionnaire was developed and administered via the Internet to 309 RE teachers in 42 Catholic high schools across Australia. The questionnaire comprised demographic questions, and items designed to measure self-efficacy for teaching RE, and the three related constructs. Principal components analysis identified three components of self-efficacy for teaching RE: self-efficacy for sacramentality, self-efficacy for doctrine, and self-efficacy for praxis.

Multilevel regression analysis was employed to build a model of self-efficacy for teaching RE. In addition, an open-ended free response provided further insights of self-efficacy for teaching RE.

The investigation found that self-efficacy for teaching RE emerged as three distinct constructs: self-efficacy for doctrine, self-efficacy for sacramentality, and self-efficacy for praxis. The intrinsic spirituality of RE teachers, the collective efficacy of their teams, and the implicit theories they held about their students' ability contributed to a model of self-efficacy for teaching RE. Intrinsic spirituality, implicit theories of student ability in RE, and collective efficacy for praxis predicted self-efficacy for sacramentality. Intrinsic spirituality, implicit theories of student ability in RE, and gender predicted self-efficacy for praxis. Self-efficacy for doctrine was predicted by an inverse relationship with intrinsic spirituality, implicit theories about student ability in RE and RE teaching experience. The qualitative analysis produced insights into the experience of teaching RE which provoke further questions about the nature of RE teaching in Australia, particularly the need for both quality training and meaningful support.

The research was cross-sectional in design, so no causal conclusions can be drawn. Although the sample was statistically adequate, a larger sample may have been desirable. Finally, the data were self-report in nature, and the accuracy of the participants' responses cannot be measured.

This study contributes to Australian Catholic school systems' understanding of the beliefs RE teachers hold about their capabilities, their beliefs about their students, and their intrinsic spirituality. It should assist Catholic school administrators, directors of Catholic teacher preparation, Catholic school principals and leaders. The results of

this investigation contribute to a gap in the literature on the self-efficacy for teaching RE.

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The study involved 18 Catholic dioceses, 42 schools and 309 religious education teachers. I am delighted that they agreed to participate and wish to acknowledge their generous and honest participation.

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Certification

I, Gregory James Elliott, declare that this thesis submitted in fulfilment of the requirements for the conferral of the Doctor of Philosophy degree from the University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. This document has not been submitted for qualifications at any other academic institution.

Gregory James Elliott

September 14, 2019

List of Names or Abbreviations

ABS: Australian Bureau of Statistics

CE: Collective efficacy

ICSEA: Index of Community Socio-Educational Advantage

IS: Intrinsic Spirituality

ITR: Implicit Theory of Students' Ability in RE

NAPLAN: National Assessment Program for Literacy and Numeracy

NCEC: National Catholic Education Commission

RE: Religious Education

REC: Religious Education Coordinator

SCT: Social Cognitive Theory

SED: Self-efficacy for Doctrine

SEP: Self-efficacy for Praxis

SES: Self-efficacy for Sacramentality

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1. INTRODUCTION

1.1 Introduction

This chapter describes the context within which this investigation is situated. It is necessarily an overview and not a comprehensive history of the field, or of religious education in Australia. The problem then is stated, followed by a description of the purpose and significance of the research. Finally, the thesis structure is explained and a brief glossary of abbreviations provided.

1.2 Context

This section provides a brief overview of the nature and development of Catholic religious education in Australia.

1.2.1. Catholic schools and religious education in Australia.

The provision of religious education (RE) is the principal reason for the existence of Catholic schools in Australia (National Catholic Education Commission, 2018b). Religious education is “a learning area with a formal curriculum for the classroom learning and teaching of religion” (National Catholic Education Commission, 2018b, p. 6). RE in Catholic schools is ultimately the responsibility of the local bishop, who generally delegates the management of RE to a diocesan education office, or to the body responsible for the governance of independent Catholic schools. In 2017 there were 1741 primary and secondary Catholic Schools in Australia educating approximately 766 000 students taught by almost 54 000 Catholic school teachers (National Catholic Education Commission, 2018a). This represents about one fifth of the Australian school student population (Buchanan, 2009), making the Catholic school sector a major contributor to the education of Australian youth. In 2017 there were 497 Catholic high schools in Australia, educating almost 361 000 students aged from about

12 years to about 18 years. Of these students, 65% were Catholic (National Catholic Education Commission, 2018a).

1.2.2 Brief history of the Catholic school sector in Australia.

From the time of European settlement of Australia in the late 18th Century, parents of Catholic children sought to educate them in a faith-based environment, and largely rejected state-based or public schools (O'Farrell, 1969). From 1880, state based education in Australia was free and secular, and it became compulsory for parents to send their children to school from the age of five (O'Farrell, 1969). In the 19th Century, Catholic school systems and independent Catholic schools developed as faith-based alternatives for parents of Catholic children instead of the free education systems offered by the state and territory governments of Australia (O'Donoghue, 2014). These schools were generally staffed by Catholic priests, nuns and brothers. Several religious orders of nuns and brothers were established in Australia specifically for the purpose of providing teachers for Catholic schools, for example the Sisters of the Good Samaritan (established 1857) and the Sisters of St Joseph (established in 1866) (MacGinley, 2002; Whitehead, 2001). It should be noted that lay teachers made a significant contribution to the development of Catholic schools during this historical period. They made up, however, the minority of Catholic school faculties, they rarely taught RE, and their role is often overlooked in histories of this period (O'Donoghue, 2004).

The number of Catholic brothers and nuns working in Catholic education declined steadily from about 1975 (MacGinley, 2002) and lay teachers were required to provide RE in Catholic schools in greater numbers. In 2018 there were 150 Catholic religious congregations of brothers and nuns still working in Australia, comprising about 7000 men and women, although few remained in active ministry in Catholic

education (Catholic Religious Australia, 2018). Catholic RE teachers are now, almost entirely, lay professionals.

1.2.3 Catholic RE curriculum and pedagogy.

In Australia, there is no national, state-based curriculum for religious education as there is in other educational jurisdictions, such as England which has state mandated religious instruction (Catto, Davie, & Perfect, 2015) and Germany where the state is responsible for the management and supervision of religious education (Llorent-Vaquero, 2018). Local Catholic dioceses generally develop and manage the RE curriculum for Catholic schools without reference to state based curricula, thus making it an explicitly Catholic, faith-based curriculum (Rymarz, 2017), rather than a phenomenological study of religion. Although all Catholic curriculum in Australia is based on teachings contained in the *Catechism of the Catholic Church*, there is a diversity of approaches to pedagogy, scope and sequencing from diocese to diocese (Rymarz, 2017). Likewise, there is no consistent national framework for the preparation or tertiary training of RE teachers, although there have recently been calls for the establishment of such a framework (National Catholic Education Commission, 2018b). According to the accreditation policies in every diocese of Australia, teachers of RE should be suitably qualified, Catholic teachers (e.g., <http://www.parra.catholic.edu.au/re-accreditation>).

1.3 Statement of the Problem

The success of RE teachers and Catholic schools to achieve their goals of educating students in the Catholic religion is determined, in part, by the motivation and self-efficacy of the RE teachers (Bandura, 1997). The self-efficacy of teachers has long been a focus of research (Bruce, Esmonde, Ross, Dookie, & Beatty, 2010; Darling-

Hammond, 1997; Fancera, 2009; Goddard, Goddard, Eun Sook, & Miller, 2015; Hattie, 2009; Hunter & Barker, 1987; Ibrahim, Sedat, & Mehmet Sukru, 2013; Jonsson, Beach, Korp, & Erlandson, 2012; Riveros, 2012; Tschannen-Moran, Hoy, & Hoy, 1998; Wang, Li, Tan, & Lee, 2017; Zhou & Urhahne, 2013). This rich seam of research exists because of the understanding that the work of teachers has a direct and considerable effect on the achievement of students, their learning, and life outcomes.

The work of teaching RE requires a combination of skills, knowledge, and aptitudes which, it could be argued, is different from, and more complex than, the teaching of other subjects in the school curriculum. This is because the various curricula around Australia assume that teachers bring to their teaching an explicit Catholic spirituality and a willingness to share their personal faith (e.g., Bishops of NSW and the ACT, 2007). Teachers, therefore, generally combine significant subject matter expertise (the doctrine and history of Catholic Christianity), pedagogical mastery, and a commitment to the evangelical mission of the Catholic Church (e.g., Catholic Education Office Melbourne, 2005). All of this occurs in a context of growing secularism in Australian society (Australian Bureau of Statistics, 2017a), declining participation in formal Sunday worship in the Catholic Church (Dixon, Reid, & Chee, 2013), a crisis of trust in the wake of the Royal Commission into Institutional Responses to Sexual Abuse (McPhillips, 2018), and only 5% of students naming school as a source of spiritual support (Roehlkepartain, Benson, Scales, Kimball, & King, 2008). These, among other contextual factors affecting Australian schooling, will likely impact the beliefs that RE teachers have about their capabilities to execute the actions required of them in their role.

1.4 Purpose of the Investigation

There is an apparent gap in academic research into the self-efficacy of RE teachers. The purpose of this investigation is to develop a theoretical and empirical framework with which to examine the self-efficacy of RE teachers in Australian Catholic high schools. An extensive search of research databases did not yield any literature which examines the self-efficacy of RE teachers and, more precisely, the self-efficacy of RE teachers in Australian schools. Self-efficacy is defined as the beliefs people hold about their capabilities to carry out the necessary actions to achieve a desired outcome (Bandura, 1997).

This research used social-scientific methods to build a model of self-efficacy for teaching RE and test that model with RE teachers in some Australian Catholic high schools. The model seeks to define precisely the nature of self-efficacy for teaching RE as well as likely predictors of self-efficacy for teaching RE, including collective efficacy (Bandura, 2000; Goddard, 2001) of the RE team, intrinsic spirituality (Hodge, 2003) of the RE teachers, and implicit theories (Dweck, Chiu, & Hong, 1995) RE teachers hold about the capacity of their students to grow their RE ability and faith as a result of religious education.

1.5 Significance of the Investigation

This investigation is significant because it contributes to research about the self-efficacy of RE teachers, which has not hitherto been widely considered. The self-efficacy of RE teachers is a topic which deals with what is at the heart of religious education: the beliefs that teachers hold about whether they can carry out the tasks the Church has given them. The Catholic Church expressed the principal purposes of Catholic education during the second Vatican Council (1962 - 1965) as:

...this goal: that the baptized, while they are gradually introduced to the knowledge of the mystery of salvation, become ever more aware of the gift of Faith they have received, and that they learn in addition how to worship God the Father in spirit and truth (cf. John 4:23) especially in liturgical action, and be conformed in their personal lives according to the new man created in justice and holiness of truth (Eph. 4:22-24); also that they develop into perfect manhood, to the mature measure of the fullness of Christ (cf. Eph. 4:13) and strive for the growth of the Mystical Body; moreover, that aware of their calling, they learn not only how to bear witness to the hope that is in them (cf. Peter 3:15) but also how to help in the Christian formation of the world that takes place when natural powers viewed in the full consideration of man redeemed by Christ contribute to the good of the whole society. (Paul VI, 1965, para. 8)

The bishops of NSW and the ACT (2007) expressed a requirement that RE teachers be “deeply committed to the goals of Catholic education” (p.18) and that they “teach and live in accordance with the teachings of the Church” (p.18). The aims of RE have been more recently articulated by the National Catholic Education Commission as developing:

students’ knowledge and understandings of Christianity in the light of Jesus and the Gospel, and its unfolding story and diversity within contemporary Australian and global society. It expands students’ spiritual awareness and religious identity fostering their capacities and skills of discerning, interpreting, thinking critically, seeking truth and making meaning. It challenges and inspires their service to others and engagement in the Church and the world. (2018, p.7)

As can be understood from the two quotations above, the Catholic Church, through its mission of Catholic education, expects RE teachers to achieve profound goals. This study is significant because it will attempt to explain the nature of RE teachers' beliefs about their capability to do these things. The results will contribute to both the understanding of the nature of self-efficacy of teachers in a specific domain, and the factors which contribute to self-efficacy in the domain of religious education in Australian Catholic high schools.

As explained earlier, Catholic schools influence the educational experience of a large proportion of the Australian adolescent population. The Catholic Church is still the largest single religious institution in Australia in terms of the affiliations expressed by Australian citizens and while its adherents are declining as a proportion of Australian society, more than one fifth of all Australians claim to be affiliated with it (Australian Bureau of Statistics, 2017b). The universal Catholic Church continues to acknowledge the importance of Catholic education, with Pope Francis declaring that religious education is “one of the most important challenges for the Church, engaged as she is today in implementing the new evangelization in a historical and cultural context which is in constant flux” (Pope Francis, 2014).

In the context of this study, developing a theoretical and empirical framework for explaining the self-efficacy of RE teachers will provide insights for Catholic school leaders, religious education coordinators (RECs), Australian bishops, and RE teachers themselves into the psychological features which may predict and determine RE teachers' self-efficacy for teaching RE.

1.6 Description of Thesis Contents

The thesis has been divided into eight chapters. Following this introduction (Chapter 1) is the literature review (Chapter 2), theoretical framework (Chapter 3), methodology (Chapter 4), analysis (Chapter 5), conclusions (Chapter 6), references (Chapter 7) and appendices (Chapter 8).

The literature review chapter (Chapter 2) provides a broad overview of the salient literature in the field of psychology and motivation, social cognitive theory, self-efficacy theory, the psychology of religion, and the theoretical basis for religious education. The theoretical framework which was developed in response to the literature review, and the constructs it contains, are detailed in the theoretical framework chapter (Chapter 3), as are the hypotheses and specific research questions. The methodology chapter (Chapter 4) makes a case for the use of a mixed-methods social-scientific study of the topic. It explains, to the extent that is required for this type of investigation, the research tools that were chosen for the investigation, including statistical methodologies and qualitative methodologies. Methodology and Method are treated separately. The analysis chapter (Chapter 5) begins with a description of the methods and processes chosen for the investigation. It then traces the steps involved in the quantitative study to derive data suitable for multilevel regression analysis, and the regression analysis itself. This is integrated with a discussion of the results of the quantitative study. The analysis chapter then explains and describes the processes followed to analyse the qualitative, free response data. These results are also discussed. The hypotheses are then reported on. In the conclusion (Chapter 6), the theoretical framework is revised and presented in light of the results. The limitations of the study are identified, and the implications of the findings are discussed, as well as possible directions for future research.

1.7 Summary

This chapter provided the historical and cultural context for the investigation. It identified the problem and described the purpose and significance of the study. This was followed by an outline of the thesis chapter structure.

2. LITERATURE REVIEW

2.1 Introduction

In this chapter, major theories related to human motivation are briefly detailed. Academic writings which have examined human psychology generally, and social cognitive theory specifically are outlined. The major theories covered are behaviorism, attribution theory, social cognitive theory and self-efficacy theory. The developing understanding of the relationship between religion and psychology is also examined in brief.

2.2 Theories of Human Motivation

For as long as humans have evolved the capacity for self-reflective thought and metacognition, it is likely they have sought explanations for human behaviour and for the ways in which they interact with each other and their environments. Many ancient theories of behaviour presumed a vital interior life, which in modern terms may be labelled *cognition* (van Horik & Emery, 2001). Superstitious and prescientific ideas in ancient cultures accounted for some degree of agency on the part of the person to think, feel and act either in a generative way, or in response to an environmental stimulus. This can be seen in rituals and beliefs which may be defined as magical, where ancient persons sought to make connections between, and influence aspects of, their environments through symbolic language and action (Mirecki & Meyer, 2002). Systematic explanations of human and animal behaviour can be traced to philosophers of ancient Greece, such as Aristotle and Socrates. For example, Aristotle wrote “many motions are produced in the body by its environment and some of these set in motion the intellect or the appetite, and this again then sets the whole animal in motion” (350BCE, Ch2, Para.17).

This review begins with the emergence of the modern movement of psychology which arguably followed, and took its cues from, the vast expansion of the physical sciences in the late 19th Century.

2.2.1 Fechner's psychophysics.

In 1860, Gustav Fechner established what he believed to be a mathematical law explaining the relationship between a stimulus and a subject's ability to perceive that stimulus at a given intensity (Romand, 2012). Fechner's law represented a breakthrough in finding an empirical, measurable link between the external world and the private experience of the mind. This field of study was known as psychophysics, a term which denoted the application of the field of physics to the emerging field of psychology (Gundlach, 1993). Fechner explored the relationships between stimuli and sensory phenomena, seeking to explain thresholds of perception in mathematical terms. He also enquired into the nature of consciousness and unconsciousness. These terms, which had only recently entered the philosophical discourse (Romand, 2012), were at the heart of Fechner's speculation about how humans interact with their environments. He came to the view that the material world of physics and the non-material world of psychics were two sides of the same coin and shared the same ontological value (Romand, 2012). These new insights into behaviour and cognition established important ideas about determinism and motivation that would be germane to the work of Freud, Skinner and other 20th Century psychological theorists (Romand, 2012). Arguably, the most important of these ideas relating cognition and behaviour is the notion of determinism, that is, there are phenomena that lead to behaviour and the link between the two can be studied both qualitatively and quantitatively. It is this application of the term determinism that will be employed in this review. Fechner also established that some

cognitive processes; the links between the internal and the external, are not immediately apparent or available to the conscious mind (Romand, 2012).

According to Romand (2012), “[d]espite its speculative nature, Fechner’s theory of the unconscious appears to be closely related to current research on the cognitive unconscious, and, to some extent, can be said to have been confirmed by recent advances in psychology and neurosciences” (p. 568). Romand (2012), in his defence of the significance of Fechner, suggested that Fechner’s philosophical impact has been underestimated.

2.2.2 Freud’s determinism.

In the 20th Century, Freud moved away from the foundations of psychometrics established by Fechner and used by many of Freud’s contemporaries, such as Thurstone and Spearman (as cited in Browne, 2000) and others, to pursue a radically different explanation of behaviour and motivation which principally was based on close observations of his patients in clinical settings (Jahoda, 1977). Freud painstakingly constructed a model of personality and behaviour, which identified ‘instincts’ as the initiators of behaviours. These instincts were not accessible to the conscious self or ego. Freud contended that actions can be traced to motives which can be traced to instincts. In his clinical work, Freud observed evidence of these instincts, particularly in patients suffering from various mental illnesses (Bocock, 1977; Mannoni & Bruce, 2015). By generalising from these observations, Freud asserted that many of the achievements of human civilisation could be explained by the energy and creativity generated by the displacement of needs that were the expression of these instincts. He wrote “The excessive development of his libido and the elaborations of a varied and complicated psychic life thus made possible, appear to have created the conditions prerequisite for

conflict. It is clear that these conditions are also responsible for the great progress that man has made beyond his kinship with animals” (Freud, 1920, p. 358). In other words, the instincts, constrained through socialisation and other forms of control and regulation, give rise to thoughts and behaviours, which may serve civil society. In instances of pathological behaviours, Freud traced these aberrations to (arguably less healthy) displacement of instinctive forces, for example, a libido poorly regulated by the ego and superego could give rise to violent and predatory sexual behaviour. In a global sense, Freud sought to use these devices of the id, the ego and the super-ego to frame a theory of human motivation (Freud & Brill, 1914).

The links between behaviour and the internal and external environment cues were thought by Freud to be in a linear deterministic relationship. In *The Psychopathology of Everyday Life* (Freud & Brill, 1914), Freud dedicated a chapter to determinism. Through a close analysis of speech errors and apparently random utterances or actions, Freud argued that even trivial actions can be traced to unconscious motivations. He took a position that could be described as hard-determinism, wherein he described how a person’s conscious will, which he called the ‘ego’, can be over-ridden by motivations and determinants which rise up from the ‘id’ or collection of instincts of a primal nature. In Freudian terms, because of the inability of people to observe and assess the unconscious motivations of their actions, they rarely make the connection between a seemingly innocent action or utterance and its determinant found in the id. These unconscious motivations are, in turn, determined by *a priori* events and thought processes. He wrote:

If we distinguish conscious from unconscious motivation, we are then informed by the feeling of conviction that the conscious motivation does not

extend over all our motor resolutions ... What is thus left free from the one side receives its motive from the other side, from the unconscious, and the determinism in the psychic realm is thus carried out uninterruptedly. (Freud & Brill, 1914, p. 303)

An important difficulty with Freud's reasoning was that his connection of unconscious cause with conscious effect was post hoc deduction, and neither its reliability nor its predictability were able to be tested. Although the process Freud used to revise his hypotheses followed a scientific method, it was not possible for another researcher to test the same hypothesis due to the specificity of building patient-specific models to explain behaviour and cognition. That is, his theories failed the test of falsifiability because any variation in results could be accounted for by an adjustment of the hypothesis (Moran, 2010). In a letter to his colleague Löwy on March 30, 1930, Freud wrote "whenever I had the opportunity of recognising an hypothesis of this kind to be erroneous, it was always replaced – and I hope improved – by another idea which occurred to me" (cited in Moran, 2010, p. 12).

2.2.3 Skinner and behaviourism.

The scientific method applied by Skinner was different from the deductive approach of Freud. Delprato and Midgley (1992) described his epistemology thus: "Skinner obtained empirical data first and then, by induction, derived general principles or functional relations between events" (p. 1508). Skinner shared Freud's view that behaviour is determined and that causal factors and their link to behaviours are valid subjects for scientific enquiry. He summed this view up in his axiomatic statement from 1947, "We must assume that behaviour is lawful and determined" (as cited in Delprato & Midgley, 1992, p. 23). This was the basis for Skinner's theory of behaviourism. This

field of psychological enquiry situated itself firmly within the epistemological realm of the observable and the measurable. The experimental methods he used to gather empirical data were based on the same ontological principles as other branches of science, such as physics and biology (Naour, 2009). By adopting the premise that human behaviour, like that of any organism, is orderly and determined, Skinner sought to describe behaviour in mechanistic terms. As Skinner put it, “[t]here is no place in a scientific analysis of behaviour for a mind or self” (cited in Naour, 2009, p. 1). In an experimental setting, he looked for independent variables such as the nature, proximity and strength of a stimulus. He then observed and measured the response. His aim was to develop measures and theories which predicted responses. He also sought to control responses, based on the manipulation of stimuli in the external environment (Naour, 2009).

Skinner (1950) was sceptical of the construction of general theories about learning. He carried out exhaustive studies of the learning behaviour of pigeons. His observations of the relationships between the behaviour of pigeons in experimental settings allowed him to develop operant conditioning. Under controlled situations, Skinner demonstrated that, by manipulating the consequences of free behaviours on the part of an organism, he could either increase or decrease the likelihood of that behaviour being repeated or the rate of behaviour increasing. By controlling the stimulus and reward, Skinner demonstrated that learning through operant conditioning was a robust method for shaping behaviour but stopped short of generalising this into the theory of learning. His suspicion of ipso facto theorising was expressed thus: “Research designed with respect to theory is also likely to be wasteful. That a theory generates research does not prove its value unless the research is valuable” (Skinner, 1950, p. 194). Skinner set a

high standard for the establishment of a theory and did not believe that his research or research that was available to him at the time warranted this generalisation. Operant conditioning, on the other hand, was predictable and replicable, so it met Skinner's criteria for theoretical validity. It was also evidence of a 'hard' determinism, that is, the predictability and reliability of his experiments were such that the patterns and rates of response were robust.

Skinner rejected the notion of the person as an initiator of action: "So long as we cling to the view that a person is an initiating doer, actor, or causer of behavior, we shall probably continue to neglect the conditions which must be changed if we are to solve our problems" (Skinner, 1981, p. 504). Skinner argued that such a view misunderstood the various types of conditioning at work from time to time on an individual, shaping his or her behaviour. These include operant conditioning, respondent conditioning, and natural selection. Skinner's view was that the consequences of our behaviours, rewards and punishments, determine the likelihood that such behaviours will be repeated. He also believed that sequences of stimuli become associated with each other (respondent conditioning). Further, he argued that, on a macro scale, species self-select those behaviours which will most ensure survival and successful procreation (Skinner, 1981).

Skinner contended that there is an evolutionary impact of the environment working continuously alongside the stimulant effect of the environment, both determinants of behaviour: "[t]he environment made its first great contribution during the evolution of the species, but it exerts a different kind of effect during the lifetime of the individual, and the combination of the two effects is the behavior we observe at any given time" (Skinner, 1974, p. 17). The implication for humans is how best to manage these environmental conditions in the interests of survival and flourishing.

As is apparent from the propositions above, Skinner believed behaviour is determined by factors in the environment. While Freud theorised that internal phenomena initiated behaviour, Skinner believed that initiating agents are external. As Skinner put it, the “experimental analysis of behavior goes directly to the antecedent causes in the environment” (Skinner, 1974, p. 30).

Skinner rejected dualism, that is the idea that the physical world and the mental world are qualitatively different entities and did not see any valid scientific argument for ascribing particular metaphysical qualities to the ‘mind’ (Lycan, 1984). He argued that all matter exists in time and space and the matter, which makes up our ‘mind’ existing within our bodies does not make it a special class of matter. This does not mean that Skinner rejected the notion of cognition or an interior life. He maintained that such experiences of thought, motive and feeling were impossibly ephemeral, in a scientific sense (Skinner, 1974).

By the fourth quarter of the 20th Century, the various schools of psychology were undergoing significant change as the question of determinism and the notion of generative behaviours were accounted for unsatisfactorily (Leahey, 2017). In an address to the American Psychological Association in 1974, the President of the Association, Daniel Berlyne, described the field as being in a state of flux, as competing ideas sat uncomfortably alongside each other (Berlyne, 1975). He acknowledged that science had moved on from Freudian assumptions about the imperative determinism of instinctive drives. He also explained the limitations of behaviourism, stating “[t]he point, it must be noted, is not that behaviourists have given unsatisfactory accounts of purposes and goals but that they have refused to countenance them at all” (Berlyne, 1975, p. 74). Pointing to the developments starting to take shape in cognitive psychology, Berlyne observed:

“Several lines of research are beginning to call unmistakably for a multi-level view of learning and behaviour, according to which behaviour-controlling mechanisms of increasing complexity are successively superimposed on one another in the course of evolution and in the course of individual development” (Berlyne, 1975, p. 79). It appeared a new and more nuanced paradigm was required to account for the complexity and sophistication of human behaviour.

2.2.4 Social learning theory.

Among the frameworks developed to explain personality and behaviour was Social Learning Theory (Miller & Dollard, 1941; Rotter, 1954). Miller & Dollard (1941) explained the role that imitation plays in learning and developed and identified ‘acquired drives’ and ‘acquired rewards’ as mechanisms which develop through social learning. Rotter wrote that “A person's behaviors, needs, and goals are not independent but belong in functionally related systems” (1954, p. 101). He explained that behaviours, needs and goals are necessarily formed in and influenced by the presence of others. In social learning theory, the potentiality of a behaviour occurring is measured in terms of the expectancy of the behaviour satisfying a particular psychological need based on knowledge of the situation developed from previous experience. Rotter (1954) cited the work of Rockwell (1950) who identified six categories of psychological needs: recognition/status, protection/dependency/ dominance, independence, love and affection, and physical comfort. Each of these, according to Rotter (1954), were situated in a social dynamic and individuals developed expectancies based on reinforcements previously experienced

By the 1970s a closer analysis of cognition and environment in behaviour had begun to take shape as social learning theory, which proposed that “psychological

functioning involves a continuous and reciprocal interaction between behavior and its controlling conditions” (Bandura 1977, p.345). Bandura questioned, and ultimately refuted, earlier and contemporary models of behaviour and motivation, in particular strict behaviourism (Skinner 1938; Watson & Rayner 1920) which, according to Bandura (1978), treated human behaviour in a reductionist manner, focussing on stimuli, drives, conditioning and learned or instinctive responses. Bandura argued for a more nuanced understanding of the role of cognition and the interrelationship of behaviour, cognition and environment. He was critical of theories which proposed that environmental stimuli, cognitive processes, values, beliefs and dispositions were exclusive and separate entities, operating in a linear fashion (Bandura, 1978). By demonstrating how vast a person’s range of responses to a given environment can be, and reflecting on the powerful nature of modelled learning, Bandura posited a system for analysing and understanding human behaviour that held better predictive and explanatory power.

In his early work (1977b), Bandura’s thinking turned from environmental determinism, which reduced behaviour to a pattern of responses triggered or learned, to a reciprocal relationship which allowed for the interaction between cognition, behaviour and the environment. He considered the phenomenon of ‘troublesome children’ (Bandura, 1977b) and made close observations of the subtle and reciprocal interplay between a child’s attempts to gain the attention of a distracted parent and the parent’s response to the child’s escalating behaviour. Although such interactions could be explained using behaviourist concepts, there was evidence that the beliefs of both the child and the adult were being shaped by the other, and this in turn affected the behaviour of each, both in this exchange and in future scenarios.

2.3 Social Cognitive Theory

Bandura has been recognised as a pioneer of the motivation and behavioural framework known as Social Cognitive Theory (SCT) and the concomitant theories of self-efficacy and personal agency (Ferrari, Robinson, & Yasnitsky, 2010). In his early writing Bandura (1977b) built on social learning theory, which he explained as a response to earlier theories of behaviour and learning which focused either on the acquisition of habits, the development of traits, or conditioned responses to stimuli. His contribution to social learning theory, a precursor of SCT, in essence, proposed a triadic reciprocal relationship between behaviour, cognition and the environment, as each shapes, and is shaped by, the others (Bandura, 1986).

After seeking to understand the behaviour of children who observed adults modelling aggressive behaviour in the “Bobo doll experiment” (Bandura, Ross, & Ross, 1961) Bandura concluded that there were not only cognitive processes at work which were more sophisticated than those explained in a stimulus-response or mechanistic model of behaviour, but also that there were reciprocal influences between an individual’s cognition, behaviour and environment. By observing, children were more likely to encode the aggressive behaviour of an adult of the same sex towards a ‘Bobo-doll’, Bandura argued that previous learning theories failed to account for the powerful effects of vicarious or empathetic learning. The cognition taking place during the modelling and mimicking could not adequately be explained by models of motivation based on behaviourism (Bandura et al., 1961).

2.3.1 Triadic reciprocal determinism.

Bandura (1978) explored the way behaviour, cognition and the environment shape each other in terms of their relationships and how this reciprocal determinism

related to the system of the 'self' (Bandura, 1978). He argued "self-generated influences cannot be excised from among the determinants of human behaviour without sacrificing considerable explanatory and predictive power" (Bandura, 1978, p. 351). Bandura continued his refutation of simplistic models of human behaviour. While behaviourism, and other forms of environmental determinism, were concerned with how environmental triggers shaped human behaviour in a unidirectional manner, Bandura was concerned with the interaction among individuals' behaviours, their cognition, and their environment. Bandura quoted Skinner (1971): "[a] person does not act upon the world, the world acts upon him" (cited in Bandura, 1978, p. 344). Bandura sought to develop a model of motivation and behaviour which accounted for the various forces at work, within and outside, an individual. What behaviourism had in common with personality theories such as the Freudian model, according to Bandura, was a unidirectional or causal explanation for motivation and behaviour. That is, something triggers a sequence, the outcome of which is an observable behaviour. These approaches did allow some scope for the role of cognition, but only in limited application, and not in terms of a triadic relationship between cognition, behaviour and the environment. Bandura (1978) rejected the notion that the environment is, in psychological terms, always an immutable force acting upon the individual. He argued for reciprocal determinism, defining determinism as "the production of effects by events, rather than in the doctrinal sense that actions are completely determined by a prior sequence of causes independent of the individual" (Bandura, 1978, p. 345).

Bandura (1978) explained that interactionism considers the three variables (behaviour, cognition, environment) as working together to produce an outcome. As expressed by Endler and Magnusson (1976), "The individual's behavior is influenced by

meaningful aspects of the situation, and in addition, the individual selects and interprets the situations in which behavior occurs” (p. 960). According to Bandura, such a conception of the relationship between cognition, environment and behaviour does not sufficiently account for the potential and real impact that each element (behaviour, cognition, environment) has on the others, shaping both the outcome and future behaviours and events. Typically, especially in experimental settings, behaviour had been conceptualised as a dependent variable, not an independent one. That is, behaviour was considered an outcome of a set of stimuli (internal and external) rather than a contributing determinant.

Bandura (1977b) explored the history of enquiry into cognition, especially the efforts to describe the range of formative influences which impact upon thinking and feeling. In doing so, he asserted that each theory looks for a unidirectional, causal relationship, that is, describing the relationship between the factors that act upon cognition bringing about states of mind and subsequent behaviour. The distinction between these views and the emerging theory of social learning and social cognition, is the basis of triadic reciprocal determinism.

Bandura (1978) posited a theory of self which not only made room for the effective and reactive role of cognition, but also other self-generated cognitive influences on behaviour and environment. The scope of social learning theory was broad enough to accommodate such processes as self-rewarding behaviour. This behaviour could be in terms of promising oneself a tangible reward for achieving a goal (for example, ‘If I work for an hour I will then have a cup of tea’) or evaluative rewards (such as self-congratulations for having achieved a goal). Other self-generated influences include self-evaluation of skill and success, assessment and prediction of

outcomes based on judgement of probability, and reflection on previous experience.

Bandura (1978) stressed that even these self-generated influences are not self-contained, but emerge in relationship with behaviour and environment.

Bandura illustrated a three phase model of regulating human behaviour (1978). Beginning with 'Self-Observation', an individual begins to assess the performance dimensions of behaviour. Bandura called the second phase 'Judgmental Process'. People often verify or modify their beliefs and experiences by observing and reflecting on the experiences of others. The Judgmental Process calls for reference to a variety of measures required for decision making. These include personal standards, referential performances (including social comparison) and attribution. Finally, there is the Self-Response Phase, wherein one evaluates reactions and experiences the self-applied consequences.

2.3.2 Social learning theory and ethical behaviour.

Social Learning Theory can be applied to the process of ethical decision making. Bandura (1978) investigated the application of self-regulation to morality, or more precisely, ethical decision making. He explored how social learning theory can explain the means by which cognisant individuals can enact unethical behaviour whilst disengaging from the cognitive dissonance that arises in the self-response phase (Bandura, 1978). This is possible when self-censoring processes are overcome by three types of cognitive disengagement. The first type of cognitive disengagement occurs when an individual makes an 'end-justifies-the-means' argument to himself or herself. The second disengagement cognition can occur when people obscure or disregard the consequences of their behaviours. The third means by which individuals disengage from their normal self-regulation and self-censoring behaviour is when they devalue the

humanity or moral value of the individual who may be affected by the unethical behaviour. In this way, although the consequences of behaviour may be recognised, people may minimise their moral culpability because the person or entity affected is not of equivalent value (Bandura, 1978).

The application of Social Learning Theory to ethical behaviour and decision making is an important example of the broad applicability of this theory. The example of cognitive disengagement described above illustrates that Social Learning Theory, as Bandura described it, allowed analysis at each step in a sequence of interactions between the environment, cognition and behaviour. It also accounted for variations from norms of behaviour (such as an ethical person acting unethically).

In summarising the relationship between self-regulation and social learning theory, Bandura stated that “individuals are neither powerless objects controlled by environmental forces nor entirely free agents who can do whatever they choose” (Bandura, 1978, p. 357).

Over time, social learning theory was refined and became known as Social Cognitive Theory (SCT), as it had outgrown its roots as a framework for understanding the process of the acquisition of knowledge, skills and attributes, and self-regulation (Grusec, 1992). The modification of the name to include ‘cognitive’ captured the attempt by Bandura to propose a broader framework, which incorporates the vital role played by cognition with behaviour and environment. His work also sought to explore the notions of power and agency in relation to SCT; that is, what capacity do individuals have, or believe they have, to exercise control over their experience and their lives (Grusec, 1992).

2.3.3 Self-efficacy theory.

What had emerged from Bandura's investigation of motivation, the triadic relationship between the environment, cognition and behaviour, was his observation of the assessments that individuals make about their capability to achieve specific goals in a particular setting (Bandura, 1977a). By focussing on the role that cognition plays in motivation and behaviour, he offered a model, derived from the treatment of aversive behaviours, which hypothesised particular cognitive processes leading to self-efficacy beliefs. Bandura posited the existence of a common cognitive mechanism that allows individuals to make continuous judgments about their capability to act in ways that produce desired outcomes (Bandura, 1989). The most powerful input in this process is active, mastery experience. The consequence does not simply reinforce the behaviour, as might be presumed in a strictly behaviourist model; rather, the cognition about mastery concerning the behaviour influences individuals' beliefs about the behaviour. That is, reflection upon the positive consequences of particular actions makes those actions more likely to be repeated in similar circumstance as a person believes she or he is capable of producing similarly successful outcomes, or conversely, reflection on failure to achieve a goal may reduce a person's belief that she or he will be successful in achieving that goal in the future. This is not a stimulus - response relationship. New behaviour is not automatically shaped by its effects. As Bandura put it, "Stimuli influence the likelihood of a behaviour's being performed by virtue of their predictive function, not because the stimuli are automatically connected to responses by their having occurred together" (Bandura, 1977a, p. 140).

Tryon (1981) provided a critique of Bandura's methodology, particularly with relation to self-efficacy measured in experimental settings where subjects were asked if

they would do either action A or action B, and then their subsequent actions were analysed (behavioural approach tests). Tryon contended that Bandura's measurements of self-efficacy and behaviour in this context did not sufficiently account for other influences on behaviour in the test setting, such as subject compliance. Although Bandura's theoretical framework does not rely entirely on the behavioural approach tests examined by Tyron (1981), this critique does point to the difficulties presented by self-reporting in behaviour/motivation studies.

Bandura described the limitations of experimental models which investigated a subject's perceptions about expectations at a particular point in an experimental setting. These critical studies were of limited use as they considered cognition, behaviour and environmental factors exclusive of each other. According to Bandura these are "interlocking" and "interactional" phenomena and exist in dynamic relationship with each other (Bandura, 1978, p. 347).

The cognitive processes, which allow a person to make a judgement of the likelihood that a planned action will give rise to a desirable outcome, were placed centre stage in SCT (Bandura, 1999). As Bandura put it "[p]eople set goals for themselves, anticipate the likely consequences of prospective actions, and select and create courses of action likely to produce desired outcomes and avoid detrimental ones" (Bandura, 1999, p. 7).

Bandura observed that individuals make ongoing judgements about the probability of achieving their goals in particular settings. To be able to do this, they process a diverse range of inputs, including self-reflection on previous experiences, social mores and standards, earlier cognition about similar situations, environments, and observation of models in similar situations or environments. This is what Bandura called

the exercise of agency: “[a]gency thus involves not only the deliberative ability to make choices and action plans, but the ability to give shape to appropriate courses of action and to motivate and regulate their execution (Bandura, 1999, p. 8).

Self-efficacy beliefs are distinct from Rotter and Schroder’s (1954) expectancy theory. Rotter and Schroder (1954) posited that the likelihood of individuals engaging in behaviours was a function of their expectations that their behaviours would elicit suitable reinforcement or rewards, based on past experience. Bandura’s theory, however, focuses on how efficacious people believe they are in a given environment, undertaking a particular goal-directed behaviour. Bandura called these cognitions “efficacy expectations” (Bandura, 1977a, p. 141). Further, such beliefs likely will affect individuals’ choices about how they expose themselves to particular environments and the degree to which they expend effort in pursuit of a goal or objective. Bandura argued “[t]he stronger the perceived self-efficacy, the more active the efforts”(1977a, p. 140). Interestingly, he demonstrated how successful experiences achieved with little effort may have a larger impact on self-efficacy beliefs (as they are attributed to capability) than achievements attained by great effort (Bandura, 1997).

2.3.4 Sources of self-efficacy beliefs.

Bandura (1997) identified four sources of self-efficacy:

Enactive Mastery experiences – this generally is the most powerful source of efficacy beliefs. As individuals experience and reflect upon successful achievement of goals and enjoy the positive consequences of such success, a belief in the capacity to repeat or generalise the performance to other settings is likely to be enhanced. Self-generated positive consequences, such as self-rewards and self-satisfaction may also

contribute to this cognitive feedback loop, providing further evidence to heighten self-efficacy.

Vicarious experiences – Bandura revisited the aggression experiments of the early sixties (Bandura et al., 1961), to describe the impact that observation of behavioural models can have on self-efficacy. In a therapeutic environment, when treating aversive or phobic behaviours, he described how subjects may reflect on their own efficacy beliefs as they observed a model behave successfully in a situation or environment similar to the one of which they are fearful.

A distinction is drawn between participant modelling, when simulations of the environment and situation are created for the purposes of exposing the subject to the stress inducing experience and symbolic modelling, when a subject analogue is placed in a situation and observed vicariously by the subject achieving the desired outcome. The former was found by Bandura to be a more effective therapeutic approach to improving self-efficacy, but still not as effective as enactive mastery experience.

Verbal persuasion – individuals may experience enhanced self-efficacy beliefs through encouragement, feedback about irrational thinking and cognitive focussing. It helps one to attend to the experience and the environmental cues related to the behaviour. Although the effect of such an approach may be real and replicable, generally it is not as effective as mastery experiences or vicarious learning. In therapeutic settings, such verbal persuasion regarding self-efficacy may allow the client to encode patterns of self-talk which are healthy and useful, leading to a subsequent change in behaviour and self-efficacy belief (Bandura, 1997).

Bandura asserted that social influence through verbal persuasion may bring about negative as well as positive change in self-efficacy, especially in the context of

social criticism. Depending upon the disparity between a person's own belief and the social persuasion, an individual may reject or accept the persuasion. Bandura (1997, p. 105) asserted that there is an 'optimal level of disparity' which is most likely to have an impact on belief. Such appraisals are most likely to shape self-efficacy beliefs, according to Bandura, if they are believable and no more than moderately different to an individual's self-assessment. Further, the identity of the persuader and the nature of her or his relationship with the person whose self-efficacy is being influenced are also important (Bandura 1997).

Physiological and Emotional Arousal – The fourth source of self-efficacy belief is generally experienced in a situation that has a negative impact. Bandura (Bandura, 1997) described the way that anxiety and fear heightened emotional states tend to impede performance and impair self-efficacy beliefs. He detailed the success of desensitisation therapy in a clinical setting, which sought to incrementally expose subjects to the objects of their anxiety or fear in order for them to observe and control the physiological effects of the cognitive state.

Bandura established that self-efficacy beliefs contribute to motivation in a generative way; they shape behaviour and environment, as well as future cognition in a similar situation. In essence, Bandura asserted that the deterministic power of self-efficacy beliefs is most significant, "[a]mong the mechanisms of human agency none is more central or pervasive than beliefs of personal efficacy" (Bandura, 2002, p. 270).

Bandura described how individuals' persistence in behaviours in pursuit of a goal likely is based on their assessments of their capability to succeed. He also considered the various inputs, which may reduce the motivation for particular behaviour in pursuit of a goal. "The impact of information on efficacy expectations will depend on

how it is cognitively appraised" (Bandura, 1986, p. 364). This means that, even in the face of successful, active mastery experiences, an individual may still not develop enhanced self-efficacy beliefs because of deeply held values, strong social pressure or some pathology, which affect the cognitive processing of a mastery event. An individual may not have her or his self-efficacy beliefs change due to a mastery experience simply through a lack of attention to the mastery, or to the positive consequences of the mastery.

2.3.5 Other theories of motivation in relation to self-efficacy theory.

SCT and Bandura's contribution to the field of motivation and behaviour has continued to develop and has been applied in experimental and empirical settings to account for the way the 'self' mediates goal directed behaviour through a complex interaction of cognition, behaviour and the environment (Grusec, 1992). The self-efficacy construct became a useful tool for measuring the way beliefs about efficacy are constructed and the way they bring cognition to bear on behaviour. At much the same time, Expectancy-Value Theory and Outcome Expectancy Theory were being explored by Eccles and others (Eccles, 1984; Maddux, Norton, & Stoltenberg, 1986; Wigfield & Eccles, 2000). Like SCT and self-efficacy, the expectancy-value theory of motivation (Eccles, 1984) seeks to explain the behavioural and cognitive determinants of behaviour by considering the extent to which an individual expects an outcome is likely and how that outcome is valued by the individual. The likelihood of an outcome occurring, according to expectancy-value theory, is calculated by the individual using self-ability beliefs and expectancy (Wigfield & Eccles, 2000). This determines the degree to which one will persist in one's efforts to achieve a goal. Although Bandura appreciated that outcome expectancy plays a role in motivation, he argued that such a conception of

expectation and self-ability are insufficiently precise (1997). Self-efficacy beliefs are generated with relation to specific tasks in specific contexts.

In describing the relationship between self-efficacy and outcome expectancy, Bandura (1997) offered a descriptive model of cognitive states in response to the interaction of efficacy and expectancy (Figure 1). The figure explains four theoretical states that combine strong or weak self-efficacy beliefs with either high or low outcome expectancy in a four-quadrant model. For example, weak self-efficacy combined with low outcome expectancy will result in motivation characterised by resignation and/or

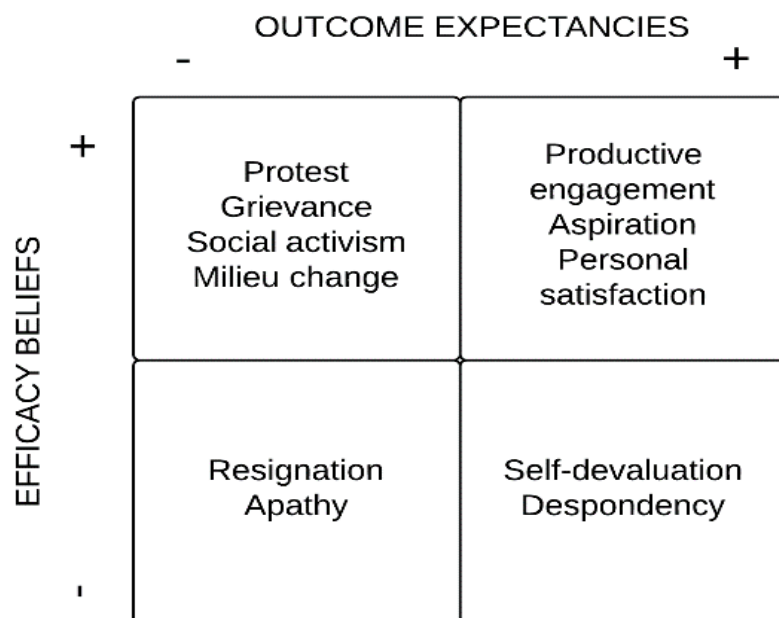


Figure 1. Bandura (1997) Efficacy Beliefs and Outcome Expectancy.

apathy. Conversely, high outcome expectancy combined with strong self-efficacy beliefs will likely create the most powerful motivations for behaviour.

Outcome expectancy as a means of explaining the relationship between beliefs about efficacy and expectancy about outcomes has solid applicability and, according to Bandura (1997), illustrated the role that cognition may play in the way individuals

motivate themselves and are influenced by their environments to act in particular settings and when facing particular challenges in the pursuit of goals . Outcome expectancy is closely related to self-efficacy beliefs, such that Kirsch (1985) argued that the two processes had been confused in some experimental designs. Rather than self-efficacy being mediated by outcome expectancy, Kirsch argued that Bandura's (1983) explanation of self-efficacy in situations of fear and avoidance do not sufficiently take into account the thought processes undertaken by people in these settings, thought processes which Bandura labelled as self-efficacy beliefs. Kirsch (1985) investigated the relative effect of outcome expectancy, self-efficacy and environmental contingencies. He demonstrated that a monetary reward may influence a snake-phobic subject's perceived ability to approach a snake, whilst inducements of far greater magnitude had little influence over subjects' beliefs that they could succeed in a skills-based task. The experiment was designed to test the interaction between self-efficacy and outcome expectancy when there were environmental contingencies, such as task difficulty and inducements or rewards. Kirsch (1985) provided a model (Figure 2) which attempted to explain the interaction between self-efficacy beliefs, outcome expectancy and the environmental contingencies impacting on behaviour. This model combined both Bandura's self-efficacy theory and Rotter's (1954) social learning theory. It is useful in that it accounts for the environmental contingencies which, with self-efficacy, mediate outcome expectancy.

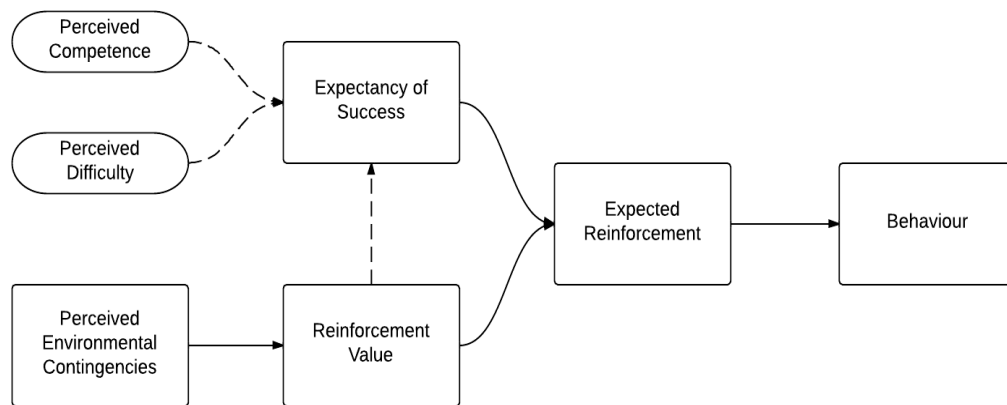


Figure 2. The interaction between self-efficacy beliefs, outcome expectancy and the environmental contingencies impacting on behaviour (Kirsch, 1985).

In the model described in Figure 2, perceived competence is a facsimile of self-efficacy and perceived difficulty, combined with perceived competence allow an individual to assess the expectancy of success. This expectancy is also moderated by environmental factors, including the likelihood and value of reinforcement or reward. Kirsch's (1985) model is significant because it incorporates environmental factors into the self-efficacy-outcome expectancy equation of motivation.

2.3.6 Dimensions of self-efficacy beliefs.

Bandura (1997) wrote that self-efficacy is “concerned not with the number of skills you have, but with what you believe you can do with what you have under a variety of circumstances” (p. 37). Self-efficacy is a set of beliefs that gives rise to motivation, in the sense that the beliefs are a dynamically constructed and temporally related set of sub-skills, which work in concert to influence judgments about behaviours. As Bandura emphasised, “different people with the same skills, or the same person under different circumstances, may perform poorly, adequately, or

extraordinarily, depending on the fluctuations in their beliefs of personal efficacy”

(Bandura, 1997, p. 37).

There are three dimensions on which self-efficacy may be measured (Bandura, 1997). The first is the magnitude or level of self-efficacy. In this regard, an individual may judge her or his capability up to a certain degree of complexity or challenge, as in “I believe I can run two kilometres, but not three”. This dimension involves assessment of self-efficacy in the context of the performance demands. The second dimension is the generality of efficacy beliefs. Some people may believe themselves to be highly efficacious across a range of goal-directed behaviour in a broad domain, for example “I am good at mathematics”. Others may have narrow conceptions of their efficacy in a domain: “I’m capable in arithmetic but can’t do algebra”. Similarly, some musicians may display skill in playing and be able to improvise and create, whilst equally capable musicians may have lower self-efficacy and always require a score from which to play. In the second instance, the musicians have lower generality of their efficacy beliefs, even though their competence, fine motor skill and training may be identical to virtuosi. The third dimension on which self-efficacy beliefs may be measured is strength. As Bandura (1997) noted, weak efficacy beliefs are easily extinguished by any of a range of adverse inputs: social persuasion, early defeats, obstacles, self-reflection on earlier failures, etcetera. Relatively strong self-efficacy beliefs are resilient and provide motivation for overcoming adversity and persisting in the face of negative social persuasion or earlier failure (Bandura, 1997).

Bandura (1997) explored the development of the parallel notions of self, agency and efficacy from birth to old age. Each of these is socially constructed, in reciprocal relationships with behaviour and the environment, and impacted by modelling and

observation. The theory is valuable in that it provides the tools to understand the desire for control as an important human motivator (Bandura, 1997).

2.3.7 Applied social cognitive theory.

The application of SCT to the school setting is of particular interest to this researcher. Bandura (1997) considered the relationship between efficacy beliefs and school performance, showing how self-efficacy correlates strongly with school performance. Perhaps of even more significance is the finding that teacher self-efficacy correlates with and may influence student performance (Bandura, 1997). Bandura (1997) stated “Teachers who believe strongly in their instructional efficacy tend to rely on persuasory means rather than authoritarian control and to support development of their students’ intrinsic interests and academic self-directedness” (p.241). Further, in a study of 97 schools, Bandura (1993) found that “perceived self-efficacy influences performance both directly and through its strong effects on goal setting and analytic thinking. Personal goals, in turn, enhance performance attainments through analytic strategies” (p. 128).

2.3.8 Mediation of self-efficacy beliefs.

Bandura (1997) identified four processes through which self-efficacy beliefs are mediated: cognitive, motivational, affective and selective processes.

2.3.8.1 Self-efficacy beliefs mediated through cognitive processes.

The first process described by Bandura includes the mediating functions of goal setting, forethought and planning. Self-efficacy is either enhanced or diminished by the way in which people think about their situations, their environments and their goal directed behaviours (Bandura, 1997). For example, teachers may establish plans for their students’ success by imagining the capacity of those students and the targets they

could achieve if the teachers' work were effective. Teachers with low self-efficacy beliefs may use much the same cognitive processes to foresee that their teaching and interventions will not realise improved performances by their students. Such teachers may reflect on previous poor performances of their students and attribute their poor performances to their own poor practices as teachers. Based on their assessments of the classroom situations in front of them, they may predict a poor outcome. This could be based on both their negative self-efficacy beliefs and their negative cognition. On the other hand, positive cognition, or practices which enact positive cognition can have a reciprocal impact on self-efficacy, as each enhances the other. Bandura (1997) cited studies which demonstrated that there is power in positive visualisation (a cognitive process) to enhance real world performance.

2.3.8.2 Self-efficacy beliefs mediated through motivational processes.

Bandura (1997) considered the capacity of humans to imagine future outcomes and to be committed to acting to achieve desirable goals. Previous experiences, or more specifically, beliefs about previous experiences, are likely to serve as motivating factors affecting the likelihood of persisting with goal directed behaviour. Bandura cited Attribution Theory (Weiner, 1985), and described the impact that attribution can have on motivation and, consequently, self-efficacy. When success is attributed to personal ability post facto, self-efficacy is likely to be enhanced. When failure is attributed to environmental factors, or a lack of effort, self-efficacy likely is not diminished, and persistence may actually increase. People with low levels of self-efficacy in a particular domain are more likely to attribute success in that domain to factors beyond themselves whilst personalising failure (Bandura, 1997).

Motivation, as a mediating effect between self-efficacy beliefs and behaviour, can also be impacted by thoughts and beliefs about the rewards to be received by achieving a goal. The magnitude, relevance and likelihood of the rewards often determine the degree to which the rewards have motivational power. This relates to goal theory and how cognition about the goal can enhance or diminish self-efficacy beliefs (Appelbaum & Hare, 1996). Locke and Bryan (1960) found that performance on tasks and motivation to perform future tasks were enhanced by individuals setting explicit goals about their performances. Bandura called this “anticipatory self-regulation” (1997, p. 128).

2.3.8.3 Self-efficacy beliefs mediated through affective processes.

The mediating effects of affective or arousal states play the role of associating affective conditions with beliefs about situational efficacy, and vice-versa (Bandura, 1997). For example, it is possible for a person to bring attention to bear on a challenge and to ‘think’ himself or herself into a state of panic. Affective states can be generated by cognitive processes. Bandura (1997) reviewed the way previous theories of behaviour had accounted for anxiety and fear arousal, including psychodynamic and behaviourist explanations. In doing so, he explored the limitations of such theories as they neither account for triadic reciprocal determinism of SCT, nor for self-efficacy beliefs about anxiety inducing situations or experiences. Applying SCT to anxiety arousal, one’s efficacy beliefs about being able to cope with or control a threat will largely determine the level of negative arousal one will experience when faced with that threat. This exercise of control is a cognitive process which illustrates the reciprocal nature of belief, behaviour, and the environment.

2.3.8.4 Self-efficacy beliefs mediated through selective processes.

People make choices about the environments in which they place themselves, thus affecting the types of experiences they will have and the degree of challenge or threat they may be required to face (Bandura, 1997). People with high self-efficacy beliefs generally are more likely to place themselves in environments where they will face relatively difficult or challenging situations (Appelbaum & Hare, 1996). Such decisions, in the normal course of events, serve to build and maintain high self-efficacy as they reflect on incremental and ongoing successes. Conversely, people with low self-efficacy are likely to avoid certain situations because of their anticipation that they will not be capable or achieve goals in those situations (Bandura 1997). For example, a teacher with strong self-efficacy for contributing to a team project likely will volunteer to work with colleagues in a group setting. Teachers with weak self-efficacy beliefs in that domain will likely foresee anxiety inducing situations in group projects in which their deficits may be evident to their colleagues. By selecting not to participate, they free themselves from the apprehension, and potentially the realisation, of such failures.

By examining self-efficacy in terms of the mediating influences of motivation, affective states and selection, self-efficacy, as a key aspect of SCT can be applied across a broad array of human behaviour and motivation. Bandura (1997) applied SCT to the organisational domain, applying the theory's explanatory power to occupational efficacy, professional development, decision making, and leadership. The wide applicability of self-efficacy theory confirms its robustness as a tool of social scientists enquiring into motivation and behaviour in diverse fields.

2.3.9 Collective efficacy.

Bandura (2002) argued that the combined efficacy of a group of people united by a common goal can be more than the net total of the relevant self-efficacy of the individuals in the group. As he expressed it, collective efficacy in any culture “is an emergent group-level property that embodies the coordinative and interactive dynamics of group functioning” (Bandura, 2002, p. 271). Collective efficacy is defined as “a group's shared belief in its conjoint capabilities to organise and execute courses of action required to produce given levels of attainments” (Bandura, 1997, p. 477). Several studies have found a positive correlation between self-efficacy and collective efficacy (Bandura, 1993, 2000; Fernandez-Ballesteros, Diez-Nicolas, Caprara, Barbaranelli, & Bandura, 2002; Roberts, 1992), although one does not determine the other. In some instances, the aggregate measures of self-efficacy of the individuals may over-predict or under-predict the group's attainment (Bandura, 1997). This phenomenon, as well as challenges in developing a reliable measure of collective efficacy, indicates the challenges associated with defining and isolating collective efficacy as a factor of motivation.

Collective efficacy is a complex, interactive process, which draws on similar sources as self-efficacy (Lev & Koslowsky, 2009). The difference is in the mode of agency. It is possible for an individual with low self-efficacy for a task simultaneously to be a member of a group with high collective efficacy for that task when she or he is in a highly effective group or team. Likewise, it is possible for an individual with high self-efficacy for a task to be a member of a group or team with relatively low collective efficacy for that task when the group is either functioning poorly or is made up of

individuals who do not possess the requisite skills, motivation or personal efficacy to achieve the group's goals in a given setting (Bandura, 1997).

Bandura (1997) explained that there is a relationship between the interdependence of a group of people, or the extent to which the outcome of the group is reliant upon high levels of cooperation and mutual goal directedness, and collective efficacy. He offered the example of the efficacy beliefs of a gymnastics team, wherein the overall success was an aggregate of individual performances, compared to a football team, for which the collective efficacy is determined by more than the individual efficacy beliefs. In a football team, the players must perform interdependently, whilst believing in the capabilities of the team to achieve the goal. Thus a measure of collective efficacy is derived from both personal efficacy beliefs and a shared belief in the capacity of the group to attack a particular challenge with strategy and persistence.

Collective efficacy is also mediated by the group structure, the nature of the task and the level of interdependence required of the team members (Bandura, 1997). Interdependence likely impacts on collective efficacy beliefs because of the extent to which members of a collective must coordinate their planning and efforts to achieve a goal. It is also significant in that, in highly functioning teams, members must attend to the complementarity of their own skills and attributes with those of their team mates. In a laboratory study into this phenomenon, Katz-Navon and Erez (2005) found that when a task demanded high levels of cooperation and a combined effort to coordinate skills, collective efficacy became more apparent and more easily distinguished from individual self-efficacy. This study was multi-faceted in that both self-efficacy and collective efficacy were measured, whilst also varying the degree of team interdependence required to achieve the goal. A significant finding from this study was that task

interdependence is a necessary condition for collective efficacy as an emergent phenomenon in group performance. In their experimental setting they found that “shared beliefs about the team transform collective-efficacy into a team-level construct” (Katz-Navon & Erez, 2005, p. 438). This helps to explain how the cognitive processes which influence efficacy beliefs are influenced and, to some extent determined, by social and environmental interactions. Katz-Navon and Erez (2005) explained this in terms of team members developing a shared mental map over time, such that this mental map guides behaviour and judgement. The authors found that “[w]hen the individual members interacted with each other under high task interdependence, collective-efficacy transcended the individual perceptions, and a group-level construct solidified” (Katz-Navon & Erez, 2005, p. 458). These findings are significant in terms of the broader understanding of collective efficacy as an aspect of human motivation. In goal directed behaviour which requires interaction and cooperation with others, collective efficacy emerges as a factor which, in part, may determine the success or otherwise of the collective endeavour. Bandura (1997) noted that collective efficacy is analogous to self-efficacy, sharing similar sources and serving a similar function, but at a collective level. A second important contribution by Katz-Navon and Erez (2005) was their empirical finding that collective efficacy, perceived during an interdependent task, develops over time. Participants cannot make accurate judgements about the efficacy of a group until they have observational data on which to make those judgements. The authors found that assessments of collective efficacy became more homogenous the longer the individuals worked with and observed their team mates. This finding reinforces the reciprocal triadic nature of SCT, as the beliefs of the participants are being shaped by their environment, by the actions and verbal persuasion of their team mates, and by

ongoing outcome expectancies related to the team's performance. Simultaneously, these individual cognitive processes and beliefs contribute to shared beliefs and expectancies of the team.

Bandura (2000) warned against conceiving of group functioning in dualistic terms, such as personal agency versus social orientation, or self-centred agency versus communality. Such notions misunderstand the reciprocal nature of efficacy beliefs and SCT more generally. An individual's efficacy beliefs are shaped by the collective efficacy they experience in a group. At the same time, self-efficacy beliefs contribute to an emergent collective efficacy, whilst also being determined by environmental and situational cues.

Measuring collective efficacy in a reliable and robust manner has been called for by Bandura (1982, 1993, 1997). Organisational management is explicitly concerned with the way people work together and the means by which such processes can be improved. A robust framework for the collection and analysis of collective efficacy data would be a valuable contribution to this and other fields of behavioural science.

Bandura (1997) argued that collecting responses from individuals about the efficacy beliefs of their group or team may not be sufficiently valid as an empirical methodology, without triangulation of data. Also, designing an instrument which seeks a corporate, or group devised assessment of efficacy from an entire group may result in data which are contaminated due to the coercive influence of the strongest or most influential members of the group (Bandura, 1997).

In studies of collective efficacy there arises a question about the unit of analysis. Goddard (2002), in applying collective efficacy measures to school performance, explained how the unit of analysis in studies of student self-efficacy and teacher self-

efficacy are the students or teachers themselves. In a study of collective efficacy, however, the unit of analysis is the group. Goddard noted that earlier measures of collective efficacy were “the combination of individual-level perceptual measures” (2002, p. 98). He found that variability of efficacy perceptions within a school was not a good predictor of student achievement among schools. Goddard supported the use of “central tendency measures in the empirical analysis of collective efficacy” (2002, p. 99). He further explained that the mean of the responses from the group is both a predictor of student achievement and a measure of the influence of the collective efficacy generated by the group. Bandura (2006) provided a process for the development of scales to measure collective efficacy that aggregated team members’ individual assessments of the group’s efficacy in domain specific tasks.

The construct, collective efficacy, is a key feature of SCT as it closely related to self-efficacy, agency in a collective situation and the reciprocal effects of cognition, the environment and behaviour.

2.3.10 The agency of self in SCT.

Ferrari et al. (2010) in assessing the contribution of Bandura to the field of social psychology, described how Bandura stressed the centrality of personal agency to motivation and behaviour, “in the fuller sense of personal agency within a social environment or cultural context that is personally meaningful and that one acts to help create” (p. 111). The notion that humans can exert influence over their internal and external environments through cognition and action, making personal agency a key feature of SCT (Bandura, 1999). This active definition of cognition accounts for an individual’s capacity to grow and adapt in adverse and complex environments. Individuals, through their self-generated cognition, have the power to exert influence

over their beliefs, behaviours and environments to serve a diverse range of ends. As Bandura (1999) wrote, “[t]houghts are not disembodied, immaterial entities that exist apart from neural events. Cognitive processes are emergent brain activities that exert determinative influence” (p. 4). In this way, thoughts give rise to action which impacts on the environment, our future cognitions and our behaviours.

Bandura (2001) identified four core features of human agency. They are intentionality, forethought, self-reactiveness and self-reflectiveness.

Intentionality – the decision by the actor, to initiate an action. In this respect it can be seen as the conception of a future outcome and the desire to bring that outcome about. In collective situations, the intention to act, and some consensus about the goal, may be shared among the actors.

Forethought – this part of the agentic sequence involves the power of imagination and representation, as an individual conceives the outcome in some detail, along with the steps required to achieve the outcome. Planning ahead is a cognitive capacity shared by a number of higher order animals, but humans, through their complex consciousness, are able to bring this imagination to bear on current goal directed activities.

Self-reactiveness - This allows for self-regulation and persistence in the face of longer term goals. Agency involves the capacity to make continuous, evaluative judgements about how behaviour moves one closer to, or further from, desired outcomes. These judgments are not only about the success, or otherwise, of the incremental steps towards the goal, but also measurements of those steps against personal and social standards.

Self-reflectiveness – this accounts for the ongoing conscious reflection on the place of behaviours in the broader goals of an individual. Once a behaviour has been executed, it is evaluated and becomes an ingredient in future reciprocal determinism. Importantly, this self-reflectiveness shapes an individual's self-efficacy beliefs – a key component of SCT.

According to Bandura (2001), agency operates in three modes. Personal agency refers to an individual's ability to directly impose change and exercise control over her or his environment through his or her behaviour. In many day-to-day interactions people exercise this type of agency involving intentionality, forethought, reactivity and reflection. However, as Bandura (2001) explained, we are not always able to exert personal power to meet our needs. In many of these instances, we invest our agency in proxies who, on our behalf, use their power to achieve an outcome which assists us to meet our needs. Examples of proxy agency include employees who join unions and guilds to negotiate on their behalf, or citizens in a democracy who look to their elected officials to govern and manage in a way which benefits the community and whose efforts most closely align with the individual's needs. In work settings where one is required to contribute and collaborate as part of a work team, it could be argued that an individual may invest proxy agency in her or his colleagues to help achieve the team's goals. However, Bandura pointed out “[p]roxy agency relies heavily on perceived social efficacy for enlisting the mediative efforts of others” (Bandura, 1999, p. 13).

Collective agency requires a “socially interdependent effort”(Bandura, 1999, p. 13), which is built on some degree of shared goals, a consensus around the strategies required for achieving those goals and collective effort. Collective agency is the goal directed action of a collective shaped by their collective efficacy beliefs. In this sense, it

is the activation of collective efficacy beliefs. There needs to be a shared belief in the efficacy of the group and subscription to some group norms or standards by which behaviours or strategies are measured. Bandura (2001) linked collective agency to the likelihood of success, stating: “the stronger the perceived collective efficacy, the higher the group’s aspirations and motivational investment in their undertakings, the stronger their staying power in the face of impediments and setbacks, the higher their morale and resilience to stressors and the greater their performance accomplishments” (Bandura, 1999, p. 14). Although notions of collective agency and collective efficacy have valuable explanatory power, it is important to remember that in SCT these macro phenomena are still mediated through an individual cognitive system which processes behaviours, past, present and future, in an environment and exerts influence over that environment (Bandura, 1997). As Bandura wrote “[a]lthough the self is socially constituted, by exercising self-influence human agents operate generatively and proactively, not just reactively, to shape the character of their social systems” (Bandura, 1999, p. 15).

2.3.11 SCT as a universal model for human behaviour.

Bandura’s SCT has found application in diverse fields of enquiry (Bandura, 2002). One of the tests of the quality of a theory or construct is its replicability and generalisability. Bandura explored how reciprocal determinism and notions of self-efficacy and agency were manifest in different cultures. He explored the idea that psychosocial motivation, agency and behaviour are situated in cultural contexts and cannot be fully understood in terms removed from the cultural milieu.

Although Bandura (2002) warned against simplistic and dualistic approaches to behaviour and motivation (such as nature versus nurture) he conducted his analysis of

the cross-cultural applicability by identifying cultures as either those which are collectivist in nature or those which are individualistic (Bandura, 2002). For this he drew on the work of Geert Hofstede (1984) who analysed variations in the approaches to work of approximately 177 000 IBM employees working in diverse cultures across Europe, Asia and the Americas. Hofstede distinguished between those cultures which were collectivist and those which were individualist and developed a model of cultural analysis which considered four (and later five) dimensions of motivation and behaviour in cultural settings. The pertinent dimension for Bandura's investigation of efficacy and agency was the dimension of individualism versus collectivism. In a later essay on his own study, Hofstede defined individualism and collectivism thus: "Individualism pertains to societies in which the ties between individuals are loose: everyone is expected to look after himself or herself and his or her immediate family. Collectivism as its opposite pertains to societies in which people from birth onwards are integrated into strong, cohesive in-groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty" (Kim & Han'guk Simni, 1994, p. 51).

Bandura (2002) applied the dichotomy of individualistic and collectivist cultures to test the hypothesis that generalisations about self-efficacy and beliefs about agency are more reliable than trait generalisations based on ethnicity. His work supported the hypothesis and Bandura stated "[h]uman behaviour is socially situated, richly contextualised and conditionally expressed" (Bandura, 2002, p. 276). These determinants of behaviour have a more powerful predictive value than cultural or ethnic traits. All the cultures examined exhibited similar expressions of personal, proxy and collective agency. They were, however, expressed in different ways across different cultures. Bandura (2002) found that individuals in some cultures may be more or less

inclined towards personal, proxy or collective agency, depending upon their ethnic traits, socialisation and geography.

Rather than explaining behaviour in terms of racial, ethnic or biological determinants, Bandura (2002) argued that nature and culture are ‘potentialist’ rather than ‘determinist’. That is, individuals, due to their genetic inheritance and socialisation, have the potential to act this way or that. This becomes a component of cognition in a given situation and exists in reciprocal influence with behaviour and the environment in which the individual is acting.

Collective efficacy and agency are useful tools for explaining political motivation and action. Bandura (1997, p. 482) explained political participation in terms of the efficacy beliefs of the citizen. The more an individual believes in his or her efficacy through proxy agency, the more likely he or she will be motivated to engage in a political process. High levels of self-efficacy belief combined with positive outcome expectations and positive experiences of collective or proxy agency likely result in a desire to participate lawfully in a political process. Low levels of self-efficacy and previous poor experiences of proxy or collective agency likely result in political disengagement. Strong self-efficacy beliefs for political action, combined with experiences of failed proxy-agency could result in less lawful, more civilly disobedient behaviours, or more direct involvement in political activism. Bandura (1997) suggested that these phenomena can be observed in any cultural setting and that the social cognitive variables will be the powerful levers of motivation and behaviour. Social structures and personal agency are interdependent and are co-creators of each other.

2.3.12 SCT and organisational theories.

SCT as an overarching theory to explain human motivation and has been applied to contexts relevant to organisational psychology and management theory (Kane, 1996; McCormick, 2001; Waldman, Balthazard, & Peterson, 2011). McCormick (2001) applied SCT to the phenomenon of leadership. He explained leadership as both a cognitive experience and a socially mediated process which is concerned with self-efficacy beliefs and self-confidence. Traditional leadership literature listed self-confidence as a nebulous quality recognised as important in leadership that requires a more robust treatment (Popper, 2007; Shelley & Edwin, 1991). That is, self-confidence has not been investigated in terms of determinants, processes and effects. In the absence of a theoretical framework within which to situate 'self-confidence' McCormick applied the triadic reciprocal deterministic model of SCT to this aspect of leadership. McCormick (2001) suggested that self-confidence is a personality trait, whilst self-efficacy is situationally determined. He posited a model with which to explore self-efficacy as a concept explaining leadership.

In reference to Bandura (1997), McCormick defined SCT as "an integrated, causal perspective in which social influences operate through self-processes that produce the actions. The self-system is not merely a conduit for external influences, as structural reductionists (behaviorists) might claim ... Moreover, human agency operates generatively and pro-actively rather than just reactively" (McCormick, 2001, p. 6).

In a leadership context, according to McCormick (2001), the three components of SCT are expressed as:

1. leader cognitions - thoughts and feelings about leadership and particular goals, situations, especially cognition about self-efficacy;

2. leader behaviours - this is the goal directed and people directed behaviours which move an organisation forward in its mission; and

3. leadership environments - SCT in the leadership domain underpins a clear desire to impact upon the environment within which leadership is exercised.

McCormick (2001) explored how a model of self-regulation can further illuminate self-efficacy for leadership. As leaders self-regulate their thoughts, cognitions and feelings about goals and situations they can improve or impair their self-efficacy. McCormick's (2001) model provided a functional definition of leadership self-efficacy as "one's self-perceived capability to perform the cognitive and behavioural functions necessary to regulate group process in relation to goal achievement" (p. 30).

2.3.13 SCT and the construal of self.

It is useful to consider the relationship between SCT and research in the area of self-construal. This field is concerned with how the self is understood in various collective and cultural settings (Brewer & Chen, 2007; Kitayama & Park, 2010; Markus & Kitayama, 1991). Studies such as these sought to bring clarity to the processes impacting on how individuals conceive of themselves in situations requiring interpersonal cooperation. Markus & Kitayama (1991) suggested that culture plays a mediating role in how people conceive of themselves and relate to others in general terms. They asserted that, in some cultures, individuals see themselves as predominantly independent, whilst in other cultures a people are more likely to understand themselves in interdependent terms, that is, in mutually obligatory relationships with other. Markus and Kitayama (1991, p. 226) defined independent self as "a conception of the self as an autonomous, independent person". An interdependent self-construal is where "the self

becomes most meaningful and complete when it is cast in the appropriate social relationship” (1991, p. 227).

Markus and Kitayama’s (1991) original study of cultural psychology, which proposed a framework of independence and interdependence, focused primarily on the contrast between European American middle class and Japanese middle class. Recent work in this area has brought to the fore a more nuanced understanding of the mediating role of culture in self-construal (Matsumoto, 1999; Oyserman, Coon, & Kemmelmeier, 2002). From the point of view of human motivation, research such as that conducted by Oyserman et al., (2002), has shown that self-construal is not confined to a culturally predetermined schema and that individuals can operate in both independent and interdependent ways in different situations depending upon environmental conditions and other motivations. Matsumoto (1999) contended that the original Markus and Kitayama (1991) framework for cultural psychology lacked sufficient empirical evidence and that the studies on which the framework was based had not been thoroughly replicated. Although the individualistic and collective biases have been found at statistically significant levels in American and Chinese subjects respectively, self-construal, like beliefs about self-efficacy are, at least partially, situationally determined. For example, the effect of cultural schemas is not as powerful as environmental factors to determine whether individuals will behave in independent or interdependent ways in group settings (Brewer & Chen, 2007; Hanham & McCormick, 2009).

Hanham and McCormick (2009) tested the role played by self-construal and self-efficacy in a classroom setting, measuring the relative achievement of student groups based on whether students were grouped according to pre-existing friendships

(in-groups or friendship groups) or based on less tight relationships (acquaintance groups). Hanham and McCormick (2009) sought to identify relationships between self-construal and self-efficacy for certain types of classroom group work behaviours. The authors found that the self-reported attitudes of students to group work tasks were influenced by the nature of the self-construal that was activated at the time of the task. Self-efficacy beliefs likely mediated these self-reported attitudes, as did a student's relationship with members of the group with which the student was required to work.

Whilst acknowledging the limitations of a framework which operates on a dichotomous system such as independence and interdependence, the concept of self-construal, as described by Hanham and McCormick (2009) provides a useful adjunct to SCT and bears out the reciprocal, triadic relationship between the environment, cognition and behaviour. In the present study, professional collaboration as a phenomenon may be impacted upon by a diverse set of cognitive constructs including self-efficacy and collective efficacy beliefs, attribution, and beliefs about the self in relation to personal and collective agency.

2.3.14 Criticism of Bandura's SCT.

There are a number of criticisms of the social cognitive model of human behaviour, and self-efficacy specifically. Two examples are given to illustrate. Kardong-Edgren (2013), in writing about the application of self-efficacy in nursing education described a situation in which students with high self-efficacy for nursing tasks regularly underperformed because of an abundance of misplaced confidence in their own capability. She asserted that self-efficacy theory does not adequately account for erroneous self-efficacy beliefs and how verbal persuasion and vicarious learning might inflate these beliefs unduly, impact performance, and distort self-concept. The second

critique comes from the field of control theory. Vancouver (2012) alleged that Bandura's framework was expressed in natural language that is not sufficiently robust and testable. Vancouver (2012) highlighted a similar concern to Kardon-Edgren (2013) that self-efficacy can be miscalibrated. He also claimed that the theory requires language that is precise and measurable in experimental and other settings.

2.3.15 The Application of SCT to educational settings.

As Berlyne predicted in 1975, the psychological sciences were moving towards a unifying theory of behaviour which accounted for the powerful influences of environment, cognition and behaviour (Berlyne, 1975). The advent and thorough investigation of SCT has given a broad range of researchers the tools with which to enquire into human behaviour in almost every avenue of life, including education (Bandura, 1997).

It is widely accepted that the engagement and achievement of students in a school setting is one of the key determinants of positive life outcomes for people (Abbott-Chapman et al., 2014). A 2010 study of over 9000 people in 24 countries with different cultural settings found that quality of life outcomes (e.g., health, relative income, etcetera) were correlated with education level (Skevington, 2010). For those with low levels of education, it made little difference if they were located in a poor, developing country or an affluent, developed country; the life outcomes were similarly affected by level of education.

In Australia, a focus on school and teacher improvement has been linked to national prosperity and wellbeing. *The Australian Education Act* (2013) states, in its preamble “[a] high quality and highly equitable Australian schooling system will ... create a highly skilled, successful and inclusive workforce, strengthen the economy, and

increase productivity, leading to greater prosperity for all” (p. 1). The policy direction which aimed to enact these national aspirations was contained in a document which has become known as ‘The Melbourne Declaration’ (2010). The ‘Melbourne Declaration’ is a broad, aspirational document, developed by the Council of Education Ministers from each state in the Australian federation and the Federal Government. It states: “Excellent teachers have the capacity to transform the lives of students and to inspire and nurture their development as learners, individuals and citizens” (Barr et al., 2008, p. 11). Public education policy framed by the goals in ‘The Melbourne Declaration’ have placed teacher development and school improvement as high priorities for Australia. One product of the Declaration has been the implementation of national standards for teacher quality, developed by the Australian Institute for Teaching and School Leadership (AITSL, 2012). Strand 7 of the Australian Professional Standards for Teachers concerns engaging professionally with colleagues and the community. One of the standards within this strand reads: “Participate in professional and community networks and forums to broaden knowledge and improve practice” (AITSL Standard 7, 2012). These national policies and professional learning resources all acknowledge the relationship between teacher performance and student achievement. Similar systems of teacher improvement exist in other developed and developing countries including the United States of America (*Our Future, Our Teachers*, 2011) and Great Britain (*The Importance of Teaching*, 2010). These plans for teacher improvement reference the important roles played by teachers, their practice and their capacity to reflect and grow as educators.

The research history and robustness of SCT has seen its application to the study of student achievement, teacher performance and school and system analysis (Adams & Forsyth, 2006; Fancera, 2009; Fletcher, 2016; Goddard, 2001; Moolenaar, Slegers, &

Daly, 2012; Schumacher, 2009; Wang et al., 2017). The theory, when applied to the classroom achievement setting, provides the tools for considering how individual cognition related to the self and to learning (including efficacy beliefs and cognition about agency) is shaped and mediated by the environment, by collective efficacy beliefs, and by the expression of collective agency. This dynamic arguably can be applied to the student, the teacher, groups of teachers, groups of students, and school or district educational communities. As has been described, SCT is based on triadic reciprocal determinism, whereby the elements of cognition, behaviour and the environment influence may affect each other in a bidirectional manner. In an educational setting, such an analysis of these impacts can potentially yield important insights into learning at all levels and into the impact of teachers on student achievement. Such insights can frame and resource processes of teacher education, professional learning and systemic planning to improve student outcomes (e.g., Pace & Aiello, 2016).

Bandura (1997) noted that self-efficacy beliefs are vital in the development of cognitive competencies necessary for academic success. He identified three main sources of self-efficacy in a classroom setting: student self-efficacy, teacher self-efficacy and faculty collective efficacy (Bandura, 1997, p. 214).

Goddard (2001, p. 467) defined teacher collective efficacy as “the perceptions of teachers in a school that the faculty as a whole can execute the courses of action necessary to have positive effects on students”. He also argued that it was a psychological construct that deserved more attention in the area of teacher psychology. Likewise, Bandura (1997, p. 468) argued that “although perceived collective efficacy is

widely recognized to be highly important to a full understanding of organizational functioning, it has been the subject of little research".

Teams of teachers in faculties are arguably semi-autonomous work teams (Cohen & Bailey, 1997). Their duties are described by curriculum documents and directed by a supervisor, but there is, in most cases, autonomy about how the team goes about achieving its goals and how team members within their classrooms manage learning.

2.3.16 Student self-efficacy beliefs.

Strong self-efficacy beliefs are considered essential for a good quality of life, as these beliefs determine the goal setting in which one engages, as well as the degree to which one persists in the face of adversity or challenge (Bandura, 1997). Bandura (1997) explained that self-efficacy beliefs are situation specific and are the thoughts and beliefs individuals have that help them anticipate positive consequences which result from their actions and efforts. In this sense, they are generated in forethought, but are shaped by mastery experiences, vicarious experiences, verbal persuasion and physio-emotional arousal (Bandura, 1997).

Research has yielded correlations between student self-efficacy and performance at university (Gore, 2006; Wolters & Hussain, 2015), classroom learning (Parker, Marsh, Ciarrochi, Marshall, & Abduljabbar, 2014; Schippers, 2012) and student engagement (Linnenbrink & Pintrich, 2003; Valle, Regueiro, Rodriguez, Pineiro, & Freire, 2015). Collins (1985) demonstrated experimentally that self-efficacy beliefs are distinct from aptitude or cognitive skill. Collins (1985) found that students who possessed high levels of self-efficacy for solving problems (of a mathematical nature) were able to solve problems at a faster rate and with greater persistence, resilience and

accuracy than students of similar ability who reported lower levels of self-efficacy for solving problems. This self-efficacy could be isolated and measured as an emergent cognition which was distinct from measures of students' actual ability. Collins showed that this cognitive process operated similarly in students at various levels of academic ability. Similar results were found by Skaalvik, Federici, and Klassen (2015). Their study produced a regression model and path analysis that showed self-efficacy was a strong predictor of mathematics achievement and that it "has been shown to predict subsequent achievement" (p. 134). An application of SCT to this phenomenon suggests that, for academically successful students and unsuccessful students alike, their previous mastery experiences, vicarious experiences, influences in their environment, and their affective and physiological responses to these, created a cognitive process which resulted in enhanced self-efficacy. Consequently, students attributed their success to their own effort and determination.

2.3.17 Attribution theory and academic self-concept.

Attribution beliefs are an important subset of cognition relating to self-efficacy (Bandura, 1997, p. 84). Attribution Theory (Weiner, 1985) posits that beliefs about the causes or sources of one's successes and failures may affect future cognition about that type of achievement. By ascribing causal relationships between internal and external experiences and outcomes in goal related behaviours (attributions), individuals make assessments, using cognitive processes such as judgement, reflection and foresight to explain reasons for success or failure. The properties of attributional thinking identified by Weiner (1985) include the locus of causality, the stability of the causes and the controllability of the causes. These properties have been applied to cognition about achievement in educational settings (Zhou & Urhahne, 2013). They generally make

either internal or external attributions for their successes or failures. Students generally also attribute causes of their successes or failures to stable or unstable (changeable) causes. Students tend to assess whether the cause can be controlled by their own intention and action. In a classroom setting, a student who has failed a learning task may attribute that failure to an external cause: the teacher. He or she may consider that, for the next several terms of classes at least, that teacher is likely to remain, thereby being a stable cause of failure in the intermediate term. The student may also judge that the performance of the teacher is beyond the control of the individual student. In this example, if students believe their teacher is incompetent, they may attribute the cause of failure to an external, stable and uncontrollable source over an intermediate time period. According to Weiner (1985), this can give rise to an affective experience of helplessness and anger.

An alternative attribution in a similar situation of a student failing a learning task may present itself as an internal, unstable and controllable cause of failure. A different student, through reflection and evaluation, may attribute his or her failure to an internal cause: poor preparation. He or she may also judge that such a condition is out-of-character for him or her, allowing for the cause to be unstable, an aberration of normal preparation for tests or assessments. She or he may also believe that such a poor practice is controllable in the future with better planning and commitment. Hunter and Barker (1987) found that students who attributed their successes to effort and determination were more likely to succeed than those who believed their successes were caused by a factor beyond their control, such as luck, innate ability or the quality of their teacher. In this sense, students who believe the source of success is internal, unstable and

controllable can develop more positive cognition about their learning, as well as enhance their self-efficacy beliefs.

In terms of the relationship between attribution beliefs and self-efficacy beliefs, Bandura (1997, pp. 124-125) explained: “[p]erceived self-efficacy mediates the effect of causal attributions on performance across such diverse activities as academic performances.”

A link has been identified between students’ attributions of their successes or failures and the behaviour and judgments of their teachers. Zhou and Urhahne (2013) found that underestimation of student performance was related to low expectancy for success, more anxiety about tests, and low academic self-concept. The authors showed that students generally take their cues about attribution from teacher feedback, even when that feedback was faulty. The relationship between self-efficacy and attribution theory, as applied by Zhou and Urhahne (2013), suggests that students develop beliefs about their efficacy in a given situation in part by how they attribute the causes of their achievement. This is different from Bandura’s (1997) explanation of the mediating role of efficacy beliefs in forming attributions, as Zhou and Urhahne (2011) argued that situational self-efficacy is mediated by attribution. Their study analysed the attributions of students who, in an experimental setting, had their achievement underestimated by their teachers. These students were more likely to attribute their failure to internal, stable causes. They attributed their successes to external, uncontrollable causes. This also impacted on their beliefs about their self-efficacy. Self-efficacy and attribution are cognitive processes that are apparently closely related.

In student learning, as in other domains where SCT may be applied, self-efficacy is situated in the goal directed behavioural contexts within which students work. A

student may have strong self-efficacy beliefs for literature analysis, but weak self-efficacy beliefs for athletics. Ferla, Valcke and Cai (2009) tested if academic self-efficacy was a separate conceptual and empirical phenomenon from academic self-concept. They found that, in relation to mathematics learning, not only is self-concept a distinct construct, but, in their study, academic self-concept was a better predictor for affective motivational variables, while academic self-efficacy remained a stronger predictor of academic achievement.

Three sets of cognitive processes, all of which are impacted upon by internal and external environmental factors, appear to impact on student learning. These are academic self-efficacy, academic self-concept and academic motivation. Akomolafe et al., (2013) measured the relative influence of each of these variables on achievement, and found that self-efficacy had the best predictive value, followed by academic self-concept and finally, academic motivation. Although not included in this study, it would be valuable to conduct an analysis to determine if academic motivation is, in fact, a product of self-efficacy, self-concept, and outcome expectancy.

SCT, as it applies to student achievement, provides an important framework for teachers enquiring into how to create an effective learning environment.

2.3.18 Teacher self-efficacy beliefs.

Another avenue of research is an investigation of the sources of teacher self-efficacy beliefs and the impact of these beliefs on student self-efficacy and student learning (Klassen & Tze, 2014). Bandura (1997) described various consequences of weak self-efficacy for teaching. Such beliefs could result in teachers resorting to behaviours which are less productive for learning, such as disengagement, low commitment to students and the profession, and emotional distress. Therefore, it would

appear in the best interest of teachers, school leaders and school communities that teachers develop themselves and nurture healthier self-efficacy beliefs about their teaching by engaging in mastery experiences, having vicarious experiences of success, and being supported in their professional relationships.

Caprara, Barbaranelli, Steca, and Malone (2006) studied the impact that teacher self-efficacy had on job satisfaction and on student performance. In reviewing the extant literature, the authors summarised the relationship between self-efficacy beliefs and the various factors at work in the dynamic of teaching and learning. The authors found ample literature showing that the vast array of critical teacher functions, from classroom management to meeting the diverse needs of learners, were all correlated with teacher self-efficacy beliefs for each of the teaching tasks and processes (Caprara et al., 2006, p. 474). Marjolein Zee and Helma M. Y. Koomen (2016), in a synthesis of 165 articles over 40 years of research into teacher general self-efficacy found that the construct played a critical role in “student academic adjustment, patterns of teacher behaviour and practices related to classroom quality, and factors underlying teachers’ psychological well-being, including personal accomplishment, job satisfaction, and commitment” (p. 981). The authors also found poor teacher self-efficacy was related to teacher stress and burnout. As such, teacher self-efficacy appears important to researchers and practitioners in understanding the motivation and efficacy of teachers. Bandura (1997) argued against the notion of general teacher self-efficacy because of the domain specific nature of the beliefs teachers hold about their capabilities. For example, a teacher may have strong belief in their ability to teach mathematics to primary school students, but simultaneously have weak belief in their ability to teach mathematics to high school students. In the present study, self-efficacy relates to specific tasks and goals, rather than

a general belief. In considering the application of measures of teacher self-efficacy in a Turkish setting, Erdem and Demirel (2007) clarified the difference between measures of teacher efficacy belief, which are generalised measures of a teacher's belief that she or he can improve student learning, and measures of teacher self-efficacy belief, which require "assessments of their competence across a wide range of activities and tasks they are asked to perform" (Erdem & Demirel, 2007, p. 583). This important distinction reinforces the understanding that self-efficacy beliefs are situated in specific goal directed behaviours.

The study of over 2000 teachers in Italy (Caprara et al., 2006) was significant from an SCT perspective, as its conceptual model considered the triadic, reciprocal relationship between teacher self-efficacy beliefs, teachers' satisfaction with their jobs and student performance over time. They found that "the contribution of teachers' aggregated self-efficacy beliefs on a global indicator of school functioning, the average grades of students at the end of junior high school", was statistically significant. Further, they demonstrated that higher levels of beliefs about self-efficacy were associated with greater job satisfaction. They also found that teachers' self-efficacy was associated with student performance. This aligned with Bandura's (1997) argument that mastery experiences, and vicarious mastery experiences are powerful contributors to self-efficacy beliefs. This study also identified the active role played by the environment in shaping cognition, and also that cognition, particularly self-efficacy beliefs, can affect the environment (by way of student performance).

2.4 Collaboration and Team Theory

Collaboration has emerged as an important construct for examining goal directed behaviour in groups (Bedwell et al., 2012; Ødegård & Bjørkly, 2012; Thomson, Perry, & Miller, 2007; Trickett & Espino, 2004). However, there appears to be little consensus in the literature about what is meant by collaboration. For example, Taylor, Hallam, Charlton, and Wall (2014, p. 33) asserted that “productivity is the most important attribute of collaboration” and that “collaborative teams [in schools] ... are a management strategy designed to improve instruction” (p.47). Pluta, Richards, and Mutnick (2013) identified collaboration as a team based competency. Shelbourn, Bouchlaghem, Anumba, and Carrillo (2007, p. 363) argued that six areas need to be addressed for collaboration to occur: vision, engagement, trust, communication, processes and technology. Bedwell et al. (2012, p. 129) noted that “depending upon the specialization of the authors, the same term could refer to different forms of interactions, providing little, if any, construct clarity”. A review of the literature concerning collaboration revealed a synthesis of disciplines including social psychology, cognitive science, management, communications, education, sociology and anthropology (Bedwell et al., 2012). Each of these disciplines provide insights and useful perspectives from which to examine collaboration and teamwork.

Senge (2006) identified shared vision building and team learning as two of five disciplines required for creating a ‘learning organisation’. In the popular management literature of Steven Covey (1990), many of the habits identified as common to highly effective people relate to creating and maintaining teams and ‘synergizing’ to achieve goals with teams. Studies of collaboration have been conducted in diverse fields such as tourism operations (Lee & Ramayah, 2011), the military forces (Strang et al., 2011;

White, Lyons, & Swindler, 2007), music performance (Sawyer, 2006), commercial supply chains (Ramanathan, 2014), science (Shrum, Chompalov, & Genuth, 2001), in nursing (Banerjee, 2011), and in the mining sector (McDonald & Young, 2012). Across the literature related to collaboration, the term is variously applied to cooperation between organisations (inter-organisation collaboration) and to cooperation among entities and individuals within an organisation.

Schrage (1990) stated that “collaboration is the process of *shared creation*: two or more individuals with complementary skills interacting to create a shared understanding that none had previously possessed or could have come to on their own. Collaboration creates a shared meaning about a process, a product, or an event” (p. 40). Although this definition is useful in a descriptive sense, it does not easily lend itself to empirical measurement of ‘complementary skills’ or ‘shared meaning’. Schrage’s (1990) definition does resonate with SCT in so far as it acknowledges the reciprocal relationship between individuals and their environments, including other individuals with whom they work. This definition does point to the important idea of the co-construction of knowledge located in a particular context. Schrage’s concept of ‘shared meaning’ cannot come into being without it being situated in process, product or event, as this is the environmental context in which the shared mental model is situated.

The concept of a shared mental model as a component of collaboration is explored in social/cultural cognition (Tomasello & Herrmann, 2010). According to Tomasello and Herrmann (2010), cultural cognition is the set of human cognitive skills that allow for the emergence of shared intentionality, collaborative engagement and the creation of complex symbolic systems for the representation and communication of mental states. Tomasello, Carpenter, Call, Behne, and Moll (2005) suggested that

‘shared intentionality’ is a defining characteristic of the human species and that it distinguishes humans from other life forms. The authors explained this notion of shared intentionality in terms of creating and using a common cultural discourse and the ability to communicate mental states, intentions and desired outcomes, and interpret such messages from others. This forms the basis of cultural cognition. Tomasello et al. (2005) applied Bandura’s SCT to cultural cognition, such that there is a reciprocal triadic relationship between individuals and their goals, another person or people and their goals, and the behaviours required to achieve the goals that are shared. By examining the behaviours of infants, as they learnt collaborative and cooperative behaviours, Tomasello et al. (2005) proposed a model of collaboration which was built on twin foundations of SCT and cultural cognition, thus demonstrating the contribution SCT can make to describing human motivation in team settings.

A collaborative team, therefore, is a collective made up of members who coordinate their resources and efforts to achieve a shared goal. The cognitive processes which contribute to the success or otherwise of an individual’s participation in collaborative work can be framed in terms of SCT (Bandura, 1997). People who work in a successful collaborative team exercise collective agency in the sense that, as a collective, they share and enact their efficacy beliefs about the team’s capability to achieve its ends. Collaboration may also be seen in terms of proxy efficacy, in that individuals may believe that the collaborative effort of the collective will assist them to achieve their individual goals. Looking more closely at the components of these cognitive processes, Atkinson (1999) identified personal experience, free will, self-reflection, and self-perception as contributing significantly to the nature and success of collaboration. The first of these, personal experience, aligns with the notion of mastery

experience, in that it contributes to self-efficacy beliefs (Bandura, 1997). Atkinson (1999) posited that successful collaboration could be hampered by a lack of stakeholder experience. She explained the role played by volition or free will. In terms of SCT this can be understood as individuals being motivated to engage in collaborative activity and exercising their personal agency to do so. This aspect, according to Atkinson (1999), can be hamstrung by a range of socio-psychological impediments such as cultural or political differences, lack of a common vision or interpersonal distrust. Self-reflection is the third concept impacting on collaboration in Atkinson's (1999) work. Earlier in this review, attention to cognition was identified as being necessary for the development of self-efficacy (Bandura, 1986). Although self-reflection and attention are different cognitive processes, both authors have pointed to the role played by metacognition in motivation and behaviour. The attention that people pay to their experience in a collective and the way they reflect on their experience in a collective will impact upon their motivation and self-efficacy. Drawing on self-efficacy theory, Atkinson wrote "the extent of exerted effort or will [in collaboration] is contingent upon a person's beliefs in given tasks" (1999, p. 176) meaning that the cognition about a task will be related to the effort invested in the collaboration for the task.

Richards, Elliott, Woloshyn, and Mitchell (2001) found that negotiation was a key element of the process of collaboration, arguing that the work of goal-directed teams was shaped by negotiation about the tasks and roles to be fulfilled. "Collaboration requires that partners negotiate project goals, methodologies, tasks, conclusions, and dissemination of results" (Richards et al., 2001, p. 7). An uncritical approach to negotiation will potentially jeopardise the outcomes and performance of the team.

The Australian Research Alliance for Children and Youth (ARACY) defined collaboration as “a means of producing something joined and new, from the interactions of people or organisations, their knowledge and resources” (Keast & Mandell, 2013, p. 1). In acknowledging the complexity of collaboration in real world settings, ARACY offered a framework for developing collaboration in goal directed collectives. The first required element is trust, as a “lubricant to collective action” (Keast & Mandell, 2013, p. 1), as it reduces the impediments to cooperation and increases the likelihood of sharing of information and of sharing risks in order to achieve goals. The second element is reciprocity in which collaborators “expect an equal return on their contribution” (Keast & Mandell, 2013, p. 2). In the early stages of collaboration, such reciprocity may be transactional. As trust develops, reciprocity is less likely to be seen as a transaction of services, and more in terms of a shared commitment to the success of the collaboration. The third element of collaboration according to ARACY is mutuality, whereby members of a collaborative collective agree to have their individual interests subsumed into the collective interest. This third element is similar to Bandura’s (1997) explanation of the role played by collective efficacy for social change, in which he argued “Effective action for social change requires merging diverse self-interests in support of common core values and goals” (Bandura, 1997, p. 522).

2.4.1 Team theory in organisational psychology.

In an effort to synthesise and integrate the various conceptualisations about collaboration, Bedwell et al. (2012) identified emerging themes in the extant literature dealing with teams and collaboration. They defined collaboration as an evolving process requiring two or more social entities (individuals or groups) to actively participate in joint activities in a reciprocal manner. They noted that collaboration is directed towards

a shared goal. When comparing the work of Bedwell et al. (2012) with other collaboration definitions hitherto mentioned, it is apparent that collaboration can be conceived of as a social, goal directed process.

An examination of collaboration, particularly in the education context, should not proceed without consideration of the literature about teams, team function and performance, and the psychological dimensions of team behaviour and motivation. If collaboration is to be conceived of as a process, then 'team' connotes an entity. In work settings, or other organisational settings, teams are more than a collection of individuals who share a similar goal. In their meta-study of two hundred studies about teams, Cohen and Bailey (1997) provided the following definition of a team in an organisational setting: "[a] team is a collection of individuals who are interdependent in their tasks, who share responsibility for outcomes, who see themselves and who are seen by others as an intact social entity embedded in one or more larger social systems (for example, business unit or the corporation), and who manage their relationships across organizational boundaries" (Cohen & Bailey, 1997, p. 241). This definition is useful in that it contains observable criteria that can be applied to collectives to determine if they are, in fact, teams. For example, a group of teachers who teach the same subject to different students in a high school setting may not necessarily be a team, according to this definition. They may not be interdependent, and they may not share responsibility for the outcome of their work. Even though teachers may identify closely with other teachers of the same discipline and be recognised as an 'in-group' by themselves and others, the lack of interdependence fails the definition.

Cohen and Bailey (1997) identified four types of teams: work teams, parallel teams, project teams and management teams; each with somewhat different structures

and foci. From their review of the literature, Cohen and Bailey (1997) provided three dimensions by which team effectiveness may be measured. These are quantity and quality of outputs (performance effectiveness), member attitudes, and behavioural outcomes. These criteria for effectiveness are sufficiently general as to have broad applicability.

Some of the attempts to create theoretical systems for describing teams have used SCT as a conceptual framework. Ilgen, Hollenbeck, Johnson, and Jundt (2005, p. 519) acknowledged the complexity of team environments, noting that knowledge, motivations and beliefs are at once both “inputs and processes in a developmental sequence that impacts team performance.” Mathieu et al. (2008), having reviewed the literature about teams described the progress from an input-process-output framework (McGrath & Altman, 1966) to a more complex framework including multiple layers of inputs, mediating forces, iteration and outcomes. This conceptual structure for teams and teamwork (Figure 3) was created by Mathieu et al. (2008), by synthesising the wealth of literature that had followed McGrath’s (1966) early work. This structure sought to account for the multivariate nature of team performance and effectiveness. Mathieu et al., (2008) were concerned that previous models of team effectiveness simplified the processes by which teams produced outcomes. In Figure 3, members of teams exist, influence and are influenced by the team and organisational context. The mediators of team function include processes as well as emergent states, which captures psychosocial and collective processes that become manifest in the midst of the team’s functioning. The outcome stage feeds back into the mediators, and indirectly to the team context, the organisational context and the members. This iterative process are episodic cycles which can shape the team’s effectiveness over time. The ongoing development of

the team is the cumulative effect of each episodic cycle. Such a framework illustrates the reciprocal relationship between the team members, their context and the emergent behaviours and states of the team.

The framework provided by Mathieu et al. (2008) captures time as a variable which influences not only the outputs, but also the emergent states of the team. For example, as team members undertake their tasks over time, they may experience mastery, they may undergo changes in their affective states or may be further impacted upon by environmental factors.

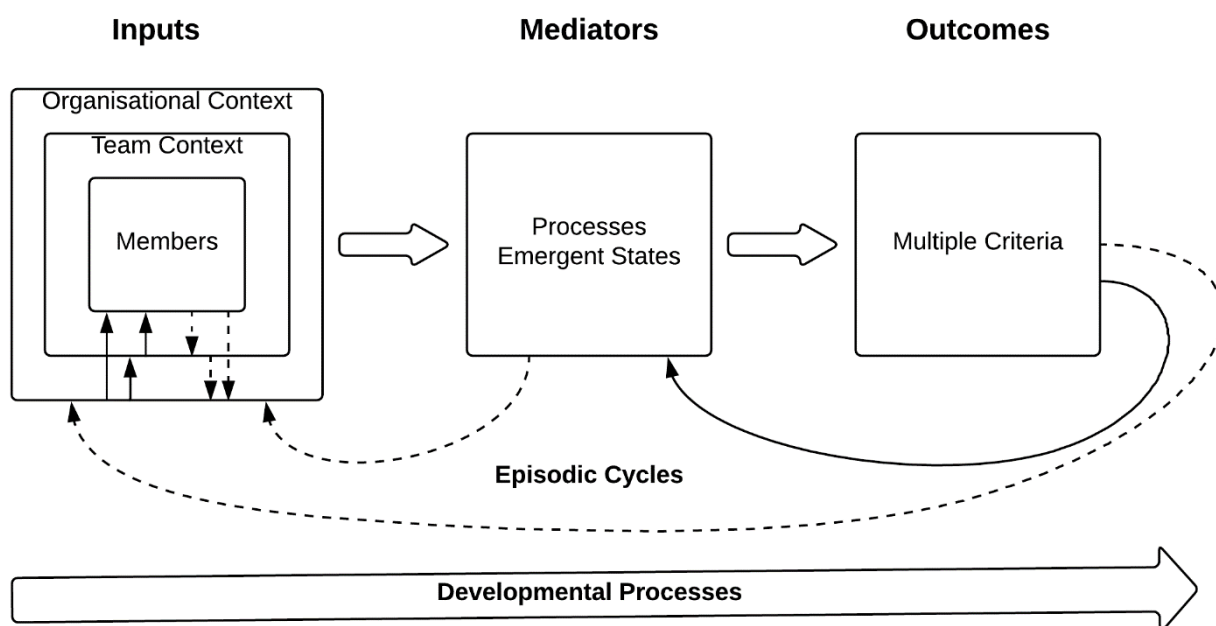


Figure 3. Model of Team Effectiveness (Mathieu et al., 2008).

González, Burke, Santuzzi, and Bradley (2003) sought to identify and analyse mediating states and processes in teams by considering the role of, and relationship between three key mediators in project-based, distance learning teams. These variables were task cohesion (the degree to which group members were attracted to and committed to the task), interpersonal attraction (the degree to which group members felt a sense of cohesion and mutuality with the group) and collective efficacy. They labelled

the combination of task cohesion and interpersonal attractiveness ‘group cohesion’. Each of these was then examined in their relationship to team performance and effectiveness. González et al. (2003) synthesised earlier work on teams to define collaboration as the demonstration of effort by individuals and facilitation of team and peer performances to achieve a shared goal to an agreed standard. The authors were particularly concerned to identify the temporal relationship between group cohesion and collective efficacy. Their study of project groups engaged in distance learning found that collective efficacy beliefs were a solid predictor of both task cohesion ($r = .70$) and interpersonal attraction ($r = .74$). By conducting path analysis, the authors were able to speculate that collective efficacy was antecedent to group cohesion. Such strong correlations point to the important role played by collective efficacy in collaboration, as well as the importance of accounting for the social characteristics of teams when investigating team processes and performance.

Salas, Vessey, and Estrada (2015) developed a framework for examining the role played by cohesion when teams are part of a multiteam system (MTS). An MTS “represents a network of distinct yet interdependent component teams, whose goals and efforts combine to achieve a superordinate objective” (Salas et al., 2015, p. 27). The authors describe how the work of an MTS requires the teams within the system to work synergistically to achieve a goal that is greater than the sum of the outputs from individual teams. Faculty or subject teams working within schools could meet these criteria. Salas et al. (2015) examined the intra-team and inter-team processes that impact on the effectiveness of the MTS, with a particular focus on interdependence, coordination and cohesion. This multilevel conceptualisation of the “functional bonds”

within and between teams indicates that the processes of cohesion, coordination and interdependence at both levels are requisite for an effective MTS (Salas et al., 2015).

2.4.2 Collaboration and team work in school contexts.

In the field of education, collaboration has been identified as a key to school improvement (Chapman & Fullan, 2007; Fullan, Cuttress, & Kilcher, 2005). Fullan et al. (2005, p.55) argued that “developing a culture for learning involves a set of strategies designed for people to learn from each other (the knowledge dimension) and become collectively committed to improvement (the affective dimension)”. This aspect of school improvement has been seen as a potential obstacle for decades. Goodlad (1983), in a study of school culture and effectiveness, found “teachers tend to be isolated in their own classrooms, in control of what goes on there and satisfied with the situation as it is. They feel impotent to effect school-wide decisions, they do not wish to call upon resource people, they individually select their own inservice or post-credential college coursework” (p. 555). There is broad consensus in the literature that teachers working together are more effective in improving learning than teachers working in isolation (Butler, Lauscher, Jarvis-Selinger, & Beckingham, 2004; Chan & Fai Pang, 2006; Chapman & Fullan, 2007; Egodawatte, McDougall, & Stoilescu, 2011; Fullan et al., 2005; Lassonde, Israel, & Almasi, 2009; Leonard & Leonard, 2001). Tschannen-Moran, Uline, Woolfolk Hoy, and Mackley (2000) conducted a study of a school community which had implemented a broad program of collaboration among teachers. They found that when “teachers continue to collaborate with one another, they create a context in which existing beliefs and knowledge are challenged and, in some cases, transformed” (Tschannen-Moran et al., 2000, p. 268).

Leonard and Leonard (2001) having reviewed the literature isolated the characteristics of group members they considered necessary for collaboration. These are clear purpose, valuing diversity, being trusting and trustworthy, and being selfless. There is strong alignment between these characteristics and the elements identified by ARACY (2013), particularly in terms of the requirement to relinquish individual interests to the extent required by collective purpose. Leonard and Leonard (2001) collected responses from 565 teachers in Canada to determine the extent to which collaboration was occurring in schools and to measure teachers' beliefs about collaboration as a contributing factor in school and student success. They adapted Schein's (1990) four dimensions of organisational culture (Schein, 1990) as the lens through which these characteristics were examined. The four dimensions identified by Schein are:

1. The nature of teacher collaborative activity. What are the types of activities and what models of discourse and cooperation characterise teachers' collaborative work?
2. The nature of teacher relationships. How do teachers relate and communicate? How are shared values identified and conflicts resolved?
3. The nature of school diversity. Are different and divergent views and opinions valued and are critical voices valued?
4. The nature of time usage. How is time, as a resource, directed to the school's mission and what proportion of time is dedicated to collaborative, professional work?

In examining these dimensions, Leonard and Leonard (2001) asked about teachers' perception of their current reality as well as their judgements about what

‘should be’ in a highly effective school. The results indicated a consistently lower rating for the current reality compared to the ideal assessment of a highly performing school. In essence, teachers responded that collaborative practice is desirable in schools, but they also reported lower ratings for the actual manifestation of such collaboration in their own contexts.

Brown and Poortman (2018) found that even in informal collaboration between teams of teachers working as professional learning communities, where there was less structure than in managed teams, there were positive outcomes for measures of professional confidence and impact on student learning.

2.4.3 Professional learning communities as a structure for collaboration.

DuFour and Eaker (1998) combined elements of evidence based on professional learning and highly structured collaboration to create the model of Professional Learning Community (PLC) which has become widespread in the United States and a range of other countries (Stoll & Seashore Louis, 2007). The Alberta Commission on Learning (2003) which contained recommendations for all of Canada’s schools identified PLCs as a necessary structure for school improvement with the recommendation to school authorities to “require every school to operate as a professional learning community dedicated to continuous improvement in student achievement” (The Alberta Commission on Learning, 2003). Similar movements towards structured collaboration have been promoted in Australia, the UK and elsewhere (Stoll & Seashore Louis, 2007).

DuFour and Eaker (1998) identified the principal characteristic of a PLC as the shared purpose of “building a school’s capacity to learn”(DuFour & Eaker, 1998, p. 18). Mitchell and Sackney (2007) extended DuFour and Eaker’s definition of PLCs thus:

“[t]hey are also places of collaboration that ‘link people at the classroom, the school and community level to a shared vision and a common purpose’” (cited in Stoll & Seashore Louis, 2007, p. 37). Despite the growing popularity of PLCs as a pedagogical system (Stoll & Seashore Louis, 2007) there is little consensus regarding the nature of the collaboration and how different approaches to collaboration may impact upon the team and institutional goals.

McLaughlin and Talbert (cited in Stoll & Seashore Louis, 2007, p. 37) investigated the reality of PLCs in high schools in the United States of America. They found, among other things, that quality collaboration was under pressure from organisational and structural obstacles. One such obstacle they found was the lack of curriculum integration. This meant that, in some settings, practitioners only collaborated in subject specific teams, resulting in a loss of consistency and consistent expectations across the school. McLaughlin and Talbert also acknowledged that PLCs in elementary schools allowed for greater and more consistent collaboration, due to the different structure of elementary schools, when compared to high schools (cited in Stoll & Seashore Louis, 2007).

As with any goal-directed, team-based activity, managing the social characteristics of collaboration is critical (González et al., 2003). De Lima (2001) examined the psycho-social challenges faced as teachers try to collaborate in PLCs. He found that teachers were often not sufficiently professionally prepared for the level of interdependence required for interpersonally cohesive and goal directed collaboration. De Lima (2001) proposed an understanding of collaboration that was multifaceted and that collaboration required more than the absence of conflict. To illustrate this, he described a situation where, in the interests of collaboration, conflict among teachers in

a team may be considered destructive to the cohesive spirit of cooperation and collegiality, whereas, in other settings, such conflicts may give rise to more creative and purposeful goal directed thinking and behaviour. In the same sense, he demonstrated how overly collegial and harmonious teams may lack the intellectual confrontation necessary for rigorous thinking and planning. He argued that “conflict can have beneficial effects in educational groups and organizations that aim at engaging in significant change processes towards an improvement of the quality of education that they offer” (de Lima, 2001, p.111). This same critique was made by Dooner, Mandzuk and Clifton (2008) who explained cognitive conflict as a positive contributor to group problem solving. They defined cognitive conflict as the processes “related to problem-solving, the thoughtful consideration of critical feedback and alternative viewpoints [that] enhances the group’s collective ideas” (Dooner et al., 2008, p. 565). Hargreaves (2001, p. 19) found that “Too often ... conflict in schools is seen as a problem, not an opportunity, where purposes are threatened, competence is questioned and undertones of status and power strain the fragile bonds that hold teachers together”. Dooner et al. (2008) concluded that PLCs are promising in that they sharpen focus on teacher improvement, however, the challenges associated with collaborative work must be acknowledged and accounted for, especially the need to balance critical dialogue with collegial support.

2.5 Psychology of Religion

2.5.1 Definition of religion.

Religion has variously been defined as “the projection and pursuit of ideal personal relations with the universe and man [sic]” (Aubrey, 1925, p. 189), the concretisation of perfection (Adler, 1987), forms and actions that connect humans to

their ultimate existence (Berger, 1974), an organised expression of belief in the supernatural (Pargament, Magyar-Russell, & Murray-Swank, 2005), as “a naturalistically observable phenomenon comprising transcendental signifiers and systemically shared activities” (Allen, 2016, p. 562), a system to facilitate closeness with the sacred (MacKinlay, 2006), a social shared set of beliefs and practices generally related to spirituality (Hodge, 2018), and the search for significance (Pargament et al., 2005). There has been little consensus among psychologists, sociologists or anthropologists regarding the definition of religion (Belzen, 2010; Hood, Hill, & Spilka, 2009; Huber, 2008; Pargament, 2013a; Piedmont & Wilkins, 2013; Wulff, 1997). Middendorp (1991) wrote that a definition should “cover all relevant aspects ... of a construct, systematically brought together in an ideal type model” (p. 235), providing the benefits of both a theoretical and an operational definition.

The definition of spirituality has suffered from a similar lack of clarity to religion. In the second half of the 20th Century, the terms religion and spirituality became polarised and values laden (Wulff, 1997). The terms, in some instances were either used interchangeably, as though they carried the same meaning, or as distinct phenomena, related but uncoupled (Hodge, 2018; Pargament, 2013a). The American Psychological Association (APA) sought to develop a framework for the investigation of the psychology of religion by proposing an integrative definition which would explicate the theoretical and operational aspects of both concepts (Pargament, 2013a). This present research has adopted the integrative definitions of the APA. Therefore, religion is “the search for significance that occurs within the context of established institutions that are designed to facilitate spirituality” (Pargament, 2013a, p. 15) and spirituality is defined as “the search for the sacred” (Pargament, 2013a, p. 14). Both definitions use the word

‘search’ which can denote a range of psychological processes and states. The definition of religion refers to ‘significance’, which is sufficiently broad to encompass individual needs fulfilment, personal meaning making, and group ideals and goals. Pargament (2013a) noted that both terms are about the human experience of the sacred as a distinct psychological phenomenon and that both terms are, therefore, related. He also noted that the definitions themselves are dynamic and applicable to a wide range of cultural expressions of both religion and spirituality.

In this research, the psychology of religion is defined as the study of human belief, motivation, cognition and behaviour related to religion and spirituality (Hood et al., 2009).

2.5.2 Foundations of the psychology of religion.

Religion has been identified as an important source of motivation and meaning making in psychology (Hill, 2010; Pargament, 2013c; Park, Edmondson, & Hale-Smith, 2013). The examination of religion and religious experience through the lens of psychology has been a concern of theorists since the emergence of psychology as a branch of science. William James (1902) wrote the first theoretical text on the psychology of religion: *The Variety of Religious Experiences*, in which he made a case for a religious way of thinking and being that is distinct from other ways of thinking and being. He explained this as “a state of mind, known to religious men, but not to others, in which the will to assert ourselves and hold our own has been displaced by a willingness to close our mouths and be as nothing in the floods and waterspouts of God” (p. 47). James (1902) was one of the first in the field of psychology to attempt a theoretical definition of religion when he wrote that religion “consists of the belief that there is an unseen order, and our supreme good lies in harmoniously adjusting ourselves

thereto” (p. 43). He also explained that religion is made up of “the feelings, acts, and experiences, of individual men in their solitude, so far as they apprehend themselves to stand in relation to what they consider divine” (p. 32). James was an empiricist who believed that experience was a reliable source of scientific evidence. He was, however, concerned that society was beginning to deify science, writing “‘Science’ in many minds is genuinely taking the place of a religion. Where this is so, the scientist treats the ‘Laws of Nature’ as objective facts to be revered” (p. 46). James (1902) argued that the religious sources of behaviour and motivation were worthy objects to study when he wrote “[t]o the psychologist the religious propensities of man must be at least as interesting as any other of the facts pertaining to his mental constitution” (p. 8). James’ approach to the psychology of religion was a blend of social science and philosophy. His seminal work *The Variety of Religious Experiences* (1902) was “a synthesis regarding mind, faith, belief, and action” (Hart, 2008, p. 521).

Around the same time as James was writing, and while Fechner was establishing an experimental basis for enquiring into human cognition (Romand, 2012), Villiam Grønbæk (1897-1970) developed an experimental method for describing religiosity by measuring response times in stimulus-word response tasks about religious belief (Belzen, 2016). This method of enquiry sought to measure and define religion in a precise and scientific way. Grønbæk’s experimental method and James’ philosophical/narrative approach to examining religiosity as a psychological phenomenon are examples of the vast differences in methodology typical in the early years of the field. According to Reich (1998), the first half of the 20th Century saw a lull in the pursuit of the psychology of religion for three reasons: (a) the advent of behaviourism, which eschewed the study of anything metaphysical; (b) the appearance

of psychiatry and psychoanalysis, which competed with clergy for the treatment of psychopathologies; and (c) universities had begun to move psychology out of philosophy departments into its own faculty, which then took on a scientific framework of enquiry and did not accommodate a religious frame of behaviour and motivation.

Sigmund Freud (1856-1939) and Carl Jung (1875-1961) acknowledged the religious aspects of a person's life and the impact that following a set of religious beliefs has on the human psyche. Neither Freud nor Jung developed a theoretical framework for religion as a system of meaning making (Piedmont & Wilkins, 2013). Freud was essentially hostile to religion which he saw as an artefact of wish-fulfilment (Rempel, 1997), and generally an obstacle to psychological maturity, although he also acknowledged that it was a critical aspect of society and was likely to play a role in the psychology of humans indefinitely (Hewitt, 2014). Both Freud and Jung adopted a psycho-dynamic model of human cognition and motivation, that is, they theorised that there were relationships between parts of the mind or consciousness (and subconsciousness) that explained thoughts, beliefs and emotions, and that many of these were not directly observable, except in the effects these interactions created (Dumont, 2010). Freud often referred to the 'soul' in his writings, which in German is *das Seele*; however, most English translations have rendered this word as 'the mind' (Tyler, 2016). Tyler (2016) explained that Freud's use of the word soul intended to communicate all that is unknowable and ambiguous in the psyche, rather than a religious, or divinely created, immortal soul in a religious sense. Although Freud and Jung had different approaches to the psychology of religion, they agreed that religion could be explained in naturalistic terms and that religious feelings and beliefs were expressions of other, unobservable psychological processes (Wulff, 1997).

Otto Rank (1884-1939), who was originally a likely successor to Freud, split from his company over Rank's assertion that the human desire for immortality was a key motivating force and the spiritual yearnings of psychology patients should be the subject of psychoanalysis (Morgan, 2011). Rather than addressing religion and religious beliefs and feelings as tangential to psychic health, Rank acknowledged the reality of the immortal soul for his patients and resisted the psychoanalytical practice of rationalising spiritual notions out of existence.

Erik Erikson (1902-1994) is considered the founder of developmental psychology and added to the field of the psychology of religion by investigating the way in which religious identity is formed during adolescence and the ways in which adaptation of identity occurs as people mature and develop a unique identity (Capps, 2015). Erikson's psychoanalytical biography of Martin Luther was a vehicle for Erikson's exploration of this adaptation, as he developed a portrait of the 15th Century theologian struggling against and outgrowing an ill-fitting identity and, through work, struggle and creativity, forged a new, more integrated identity. Erikson, having witnessed the horrors of Nazi Germany and the annihilation by nuclear weapons at the end of the Second World War, sought to stress the importance of spiritual and ethical development in the process of maturation and identity formation in adulthood (Hoare, 2009). While Erikson did not confine himself to a view of the divine as a monotheistic God, and did not subscribe to a single religion, he did acknowledge an ultimate creator and argued that belief is a higher form of knowing than objective knowledge (Hoare, 2009), writing that, when humans rely solely on rational/intellectual thought, they ignore the limbic system and other pre-conscious ways of apprehending and interpreting the world. Erikson's approach to clinical psychology was to support the integration of

the self and identity of patients in a way that honoured spiritual growth and acknowledged the way that spirituality can enhance well-being and adaptation (Morgan, 2011).

Abraham Maslow (1908-1970), writing in the second half of the 20th Century developed a hierarchy of human needs, with self-actualisation as the uppermost level of human need fulfillment (Maslow, 1962). Self-actualisation is defined as “the psychological process aimed at maximizing the use of a person’s abilities and resources. This process may vary from one person to another” (Couture, 2007, p. 112). Maslow wrote that having a cogent framework for making meaning, such as religion, is as essential to wellbeing as are sunlight, vitamins or love (Maslow, 1962). Maslow was concerned that organised religion, however, constrained the type of personal growth required to achieve self-actualisation, and he believed that “the churches ... may become the major enemies of the religious experience and the religious experiencer” (Maslow, 1964, p. iv), because of their prescriptive and formulaic expressions which remove mystical power from human experiences. Maslow’s work was more concerned with spirituality and a universal need for meaning making than with examining the impact that religion and religiosity has on cognition, motivation and behaviour (Morgan, 2011).

While theorists such as Maslow, Freud, Jung and James provided many of the broad theories that attempted to locate religion and religiosity in the context of a universal understanding of the nature of human consciousness and motivation, they did not provide a robust means by which psychologists could examine the mental processes underlying religious thought and behaviour (Emmons & Paloutzian, 2003). The second half of the 20th Century saw a concerted effort by psychologists of religion to apply the

tools of empirical research used in the emerging fields of cognitive science to develop models of psychological phenomena related to religion and spirituality (Emmons & Paloutzian, 2003).

Allport (1950) examined religiosity as a personality trait and applied the same theoretical structure as other personality traits to religious feelings and behaviours. Allport and Ross (1967) developed a two factor theory of religion, arguing that individuals can have either an extrinsic or intrinsic orientation to religion. An extrinsic orientation was understood as applying to those people for whom religion is a means to an end, such as social acceptance, beneficial relationships or familial approval. People with an intrinsic orientation to religion, on the other hand, approach religion as an end in itself. They likely understand their religion as a means of integrating their internal cognition and external experience and to ‘live’ their religion in their daily life (Allport & Ross, 1967). Critics of Allport and Ross have analysed the biased nature of their work, pointing out the Christo-centric, white, Anglo-European sample bias, and the values laden nature of their unipolar measure, which references subjects as religiously mature or immature based on their religious orientation (Kirkpatrick & Hood, 1990). The work of Allport and Ross (1967) remains an important contribution to the systemisation of the field of psychology of religion.

2.5.3 Religion as a source of meaning making.

Humans generally create systems of meaning to organise and process the array of stimuli they experience and to provide themselves with a source of psychological wellbeing in response to the ambiguity, challenge and the trauma of life events (Pargament, 1997; Steger, 2017). This has also been defined as a ‘worldview’ (see Koltko-Rivera, 2004, and others). According to Koltko-Rivera (2004), a worldview is

made up of existential beliefs, evaluative beliefs, and prescriptive or proscriptive beliefs, and worldviews have an empirically established impact on cognition, affect and behaviour. Carl Jung theorised that humans have a spiritual core that seeks to discover and integrate the other levels of the self, so as to arrive at a unified concept of the self (Jung, 1950). Park (2017) argued that human beings need a functional meaning system in order to satisfy the ‘need for meaning’. The need for meaning was proposed by Park (2017) as a supercategory of needs including the need for significance, comprehension, transcendence, agency, control, certainty, identity, social validation, values and mortality defence. The absence or dysfunction of a meaning system, argued Park et al. (2013), would result in adverse psychological impacts on the individual. She proposed a two-level model of a functional meaning system comprising: (a) global meaning made up of long term goals, existential beliefs, guiding ethics, deeply held aspirations; and (b) situational meaning concerned with mapping current experience to the global meaning system. The global meaning system provides a framework by which day to day experience can be interpreted. Park et al. (2013) argued that an integrated system of meaning is essential for healthy human functioning because if its role in meeting psychological demands such as “mastery and control, the reduction of uncertainty, identity, existential answers, and behavioral guidance” (p. 158). Possessing a functional meaning system is likely to lead to better life outcomes as individuals are less likely to experience the distress that may come from uncertainty in the face of randomness, may better cope with loss and trauma, and be more likely to work towards ‘global goals’ (Park 2013). The importance of religious meaning making for wellbeing is supported by self-determination theory (Ryan & Deci, 2000) which explains how the maintenance of a meaning system can contribute to general health and psychological health specifically.

Koltko-Rivera (2004), Park (2011), Park et al. (2013), and others have described the role that religion plays in the meaning systems and worldviews of many people. Park et al. (2013) argued that religion provides adherents with a system for synthesising seemingly disparate facets of human experience into a coherent whole, whilst also providing a sense of agency and control, shared with a divine being, in an effort to impose order on the apparent randomness of the world. Religion as a system of meaning making also provides a source of identity and belonging to a collective with a consistent ideological framework (King, 2003). Religious communities also play an important role in child and adolescent development as they provide experiences and contexts within which young people are exposed to role models and experiences that shape the way they make meaning consistent with their religious identification (King, 2003), and the development of a functional meaning system is often the implicit intention of religious instruction to young people (King, 2003).

2.5.4 Multidimensional frameworks for the study of the psychology of religion.

Hood et al. (2009) described the lack of conceptual and theoretical clarity in the field of the psychology of religion in the 20th Century and proposed the application of existing, theoretically established psychological theory to the study of the psychology of religion. Recent developments in the study of the psychology of religion have mostly settled on an empirical epistemology which has as its major emphases observation, experimentation, and measurement (Hood et al., 2009), such that the psychology of religion in the current era shares methodology with other social sciences that operate in a natural-scientific framework (Hood et al., 2009). Following are three of the many applications of psychological theory to the study of the cognition, motivation and

behaviour of religious people: social psychology (Hood et al., 2009); attribution theory (Weiner, 1985); and social cognitive theory (Bandura, 1986, 1989, 2002). To this list could be added personality theory (Lodi-Smith & Roberts, 2007), and self-determination theory (Ryan & Deci, 2000). Religious people are defined as those people who identify with a religious group or community and for whom religion is an important motivator in their lives (Cohen et al., 2017).

2.5.4.1 Social psychology and religion.

Social psychology provides a multivariate framework that can be applied to the study of religion. There already exists a set of psychological tools for examining the cognition of individuals across a range of factors, including beliefs, values, affective states and habits, and behaviour (Hood et al., 2009). This structure allows for an individual-differences approach to the psychology of religion and can help to explain the relationship between individuals' religious adherence and other aspects of their life and world view.

2.5.4.2 Attribution theory and religion.

Attribution theory is concerned with the way people make sense of and explain their experience of the world, in order to create causal links about events and situations (Heider & Benesh-Weiner, 1988; Weiner, 1985), in order to establish meaning, control and esteem (Hood et al., 2009). Hood et al., (2009) asserted that attributions are triggered when there is ambiguity, when control is in doubt, or when self-esteem is threatened. In religious individuals attribution theory helps to explain the means by which distressing or traumatic events are attributed to a deity or a divine plan (Hood et al., 2009). The forces that exert influence on the attributions of religious people include situational influences such as immediate environmental factors, and dispositional factors

such as personality, cognitive/linguistic factors, self-esteem, and locus of control (Hood et al., 2009).

2.5.4.3 SCT and religion.

Social cognitive theory (Bandura, 1986, 1989, 2002) states that human behaviour is determined by the interplay of environmental stimuli and cognition. This reciprocal relationship between cognition, behaviour, and the environment means that humans can exercise agency over their own cognition and behaviour which, in turn can affect the environment. Likewise, cognition is shaped by environmental stimuli and feedback from behaviour. Bandura (1989) called this “emergent, interactive agency” (p. 1175), because individuals make a causal contribution to their own motivation and behaviour, rather than simply being acted upon by their environment, or being entirely autonomous. This powerful model of human motivation has been applied to religion and provides a means with which to examine the relationships between the cognition and behaviour of religious people and their environment. Bandura (2003) wrote of the role played by ‘spiritual modelling’ on the development of religious identity and the transmission of belief systems and religious practices. By spiritual models, Bandura meant characters from the history of the religion, religious community leaders and close familial relatives. Modelling also can enhance personal efficacy as individuals observe, attend to and often revere the example of spiritual models (Bandura, 2003). As discussed earlier, vicarious experiences of mastery and attention to a model’s behaviour, persistence, or positive behaviour can enhance one’s belief in one’s own capability in similar domains (Bandura, 1997).

The social cognitive understanding of religion and spirituality have become a focus for applied psychology and counselling, with specific reference to the self-

efficacy and proxy efficacy of religious people (see de Guzman, Lacao, & Larracas, 2015; Miller et al., 2017; Oxhandler & Parrish, 2018; Woods & Hensel, 2018, and others).

2.5.5 Religion and spirituality.

Spirituality has been defined as ‘the search for the sacred’ (Pargament, 2013b). As has already been stated, the terms religion and spirituality have been used interchangeably, or as opposing concepts in the literature (Cascio, 1999; de Jager Meezenbroek et al., 2012; Hill & Pargament, 2003; Hodge, 2018; McCarthy, 2000; Pargament, 2013a; Piedmont & Wilkins, 2013; Zwingmann, Klein, & Büssing, 2011). More recent conceptualisations argue that spirituality, while related to religious notions of ultimate meaning and ultimate reality, is not a subset of religious thinking, but is its own empirically established concept (de Souza, Bone, & Watson, 2016; Hodge, 2018; Pargament, 2013b, 2013c; Umland-Sikkema, Visser, Westerhof, & Garssen, 2018). Cascio (1999) argued that while being religious involves both external expressions (for example, attendance at communal worship, rituals, symbolic objects and markings), spirituality is an exclusively internal or intrinsic phenomenon concerned with a personal search for meaning and purpose and striving for ultimate goals of fulfilment and happiness. Whilst religion may be a resource in facilitating this questing and achieving these goals, spirituality may draw on other sources not aligned with an organised religion (for example, nature, art, meditation, etc.) (Hodge, 2018).

Hill and Pargament (2003) reviewed the literature concerning the psychology of religion and found some significant gaps, in particular the relationship between religion and spirituality and the effect that this relationship has on other areas of human behaviour. They determined that this is an understudied field of psychology, often

restricted to crude measures such as regularity of church attendance or denominational affiliation. The authors cited a study, which calculated that only 2.7% of articles in prominent psychological and psychiatric journals in the early 1990s included religion and spirituality as variables (Weaver, Kline, Samford, Lucas, & Larson, 1998). Hill and Pargament noted that despite this, 'religion and spirituality are robust variables in predicting health related outcomes' (2003, p. 66). Hill and Pargament (2003) argued that rather than taking a reductionist approach to the psychology of religion, researchers should pursue a multidimensional approach, taking into consideration such dimensions as 'closeness to God, a religious or spiritual orientation and source of motivation, religious and spiritual support, and religious and spiritual struggle' (2003, p. 72). They found that some empirical studies had begun to draw out theoretical connections between 'an organizing, motivating religion and spirituality framework and better health' (2003, p. 68). The authors also warned against the bifurcation of religion and spirituality, as this does not consider the fact that those beliefs and behaviours that might be described as spiritual are often learned and expressed in the institutional religious domain and that what constitutes religious behaviours and beliefs are often manifest in personal expressions of spirituality.

Ammerman (2013) created a phenomenological and semantic taxonomy of spirituality that resulted in an array of 11 ways in which the term spirituality can be applied. In her study, the term was found to have been applied in some instances as a proxy for institutional religion and in other instances as a source of cosmic meaning, or as indicating the sacred uniqueness of the individual. McClure (2016) built on this work to develop a theory to account for the socio-theological features of those who identify as 'spiritual but not religious' (SBNR). This is a group distinct from those who are

‘religious and spiritual’ (RAS). The author identified SBNRs as a growing segment of the population in the United States of America, representing 26% of the study sample ($n=1572$). Whilst the study indicated that being religious and being spiritual are compatible states, they are neither the same thing, nor are they mutually exclusive. SBNRs are less likely to accept a monotheistic, personal image of God and the necessity of participating in formal, communal prayer and ritual. They are more likely than RASs to identify God as a higher power or cosmic force and subscribe to an individualistic moral ethic.

The contemporary conceptualisation of spirituality as a universal, intrinsic search for the sacred, uncoupled from religion, brings with it three advantages, according to Hodge (2018): (a) it is inclusive of a diverse range of expressions of the search for the sacred; (b) it allows for a more flexible understanding of how spirituality affects motivation and behaviour; and (c) the term can readily be applied to people who are not religious, but express a search for the sacred in their lives. In this research, universal, intrinsic spirituality has been chosen as the construct to be included in the examination because of these advantages as they relate to studying RE teachers.

2.5.6 Measurement in the psychology of religion.

Hill and Pargament (2003) noted the complexity of accurately measuring the human experience of religion, acknowledging that the construct of the psychology of religion is complex and contains “cognitive, emotional, behavioral, interpersonal, and physiological dimensions” (p. 66). Hill and Hood (1999) conducted a review of 125 measures of religiosity and spirituality that they gathered into 17 categories (e.g., faith development, attitudes toward death, church involvement, and health outcomes). In

recent years, there has been an increase in the development of measures that link religion and spirituality to aspects of health and wellbeing (Hill & Pargament, 2003).

Most of the empirical measures of religion and spirituality are based on self-report surveys combined with factor analysis and correlation studies or regression modelling (Hill & Hood, 1999; Hill & Pargament, 2003). One of the earliest and most often cited of these self-report instruments is the Religious Orientation Scale (ROS), cited over 2600 times (Allport, 1950). Later work on the ROS has suggested a more complex factor structure with a personal/social dimension operating across the intrinsic and extrinsic dimension (Gorsuch & McPherson, 1989). Hill and Pargament (2003) divided the regularly cited measures into four categories: measures of closeness to God; religious support; religious and spiritual struggle, and religion and spirituality as orienting, motivating forces. They found that empirical research in these categories often found strong relationships between religiosity or spirituality and positive life dispositions and health outcomes.

Psychologists of religion acknowledge that religiosity and spirituality are dynamic and change and grow over an individual's life span (Oman, 2013). Batson and Ventis (1982) developed a measure of religious experience as a 'quest', which aimed to describe the extent to which subjects lived with an expectation that their existential beliefs and understandings would grow and change in response to life experience. The Quest Scale included items such as "Questions are far more central to my religious experience than are answers", and was found to negatively correlate with measures of prejudice and positively correlate with measures of compassion (Batson, Eidelman, Higley, & Russell, 2001).

Religion has long been identified as a source of motivation (Gorsuch, Mylvaganam, & Gorsuch, 1997; Park et al., 2013) and several instruments have been developed which aim to measure how religion operates as a motivating process. Hoge's (1972) Intrinsic Religious Motivation Scale was based on Allport's (1950) ROS, and measured the degree to which individuals have intrinsic religious motivation as the prime motivator in their lives.

Hodge (2003) built upon the earlier work of Allport and Ross (1967), Hoge (1972), and Hill and Pargament (2003) by developing a measure of intrinsic spirituality. Hodge (2003) acknowledged that earlier measures were biased towards theistic definitions of religiosity and were grounded in a Protestant world view. In establishing the terms for a more generalisable construct of spiritual motivation, Hodge replaced theistic language with more open-ended concepts of spirituality. Hodge drew on the work of Cascio (1999) who defined spirituality as "an 'intrinsic phenomenon', as a personal, experiential connectedness with Transcendence or Ultimate Reality that is expressed in one's beliefs and behaviors" (2003, p. 42). By building on earlier empirical research into religious motivation, the measure developed by Hodge focused on intrinsic spirituality as a motivator and sought to remove the duplication and bias of earlier models. Hodge's (2003) model combined the strength of an empirically tested construct (intrinsic-extrinsic religious orientation) with a more general conceptualisation of spirituality as a source of psychological motivation and measured the 'degree to which individuals find their ultimate purpose for life in their spirituality' (Hodge, 2003, p. 55).

2.6 Theoretical Constructs

Based on research in the fields of SCT, particularly self-efficacy theory, the present study will examine the self-efficacy beliefs of RE teachers in relation to their

intrinsic spirituality, the implicit theories they hold about their students' ability in RE, and the collective efficacy of their RE teams. The theoretical concepts are described below.

2.6.1 Self-efficacy for teaching RE.

Self-efficacy is defined as the belief in one's capability to take the necessary steps and expend the necessary effort to complete a specific task (Bandura, 1977a). SCT, of which self-efficacy is a component, is a theoretical framework for understanding human motivation and behaviour in terms of relationships between individuals, their cognitive processes and their environments. Wood and Bandura (1989, p. 362) argued "behaviour, cognitive, and other personal factors and environmental events operate as interacting determinants that influence each other bi-directionally". Oman (2013) described the important role that SCT, in particular social learning and imitation, plays in the psychology of religion. He wrote that "social learning must be considered among the major candidates for explaining why and how people become spiritual or religious, and why their spirituality or religion assumes a particular form" (Oman, 2013, p. 187). Bandura (2003) used the term 'spiritual modelling', as an aspect of social learning, to identify the processes by which individuals may seek to imitate or embody the values and beliefs of a spiritual model. In the context of high school RE, teachers may be spiritual models (although not always). Arguably, in order to achieve the aims of RE, the stronger the self-efficacy of the RE teachers, the more likely students learn from their 'spiritual models', as the "task of creating learning environments conducive to development of cognitive skills rests heavily on the talents and self-efficacy of teachers" (Bandura, 1997, p. 240).

Self-efficacy is specific for particular domains (Bandura, 1997). Self-efficacy for teaching RE is defined in the context of this research as the beliefs RE teachers hold about their capability to achieve the aims of the RE curriculum and bring about learning and growth in faith in their students.

By focusing on the role that cognition plays in motivation and behaviour, Bandura (1997) presented a model which hypothesised particular cognitive processes leading to self-efficacy beliefs. He identified four factors which can influence and shape self-efficacy. The first and most powerful of these is enactive mastery experience. Remembering and reflecting on previous successes (or failures) in a similar setting likely contributes to one's belief in one's capability to be successful in subsequent attempts. In RE classrooms, teachers are likely to have strong self-efficacy for teaching RE when they have experienced success and have attended to evidence that their efforts resulted in effective learning by students. RE teachers who experience difficulties in achieving their classroom goals may develop weak self-efficacy for teaching RE.

The second source of self-efficacy beliefs is vicarious experiences, or the attending to another's mastery (or lack of mastery) in goal directed behaviour (Bandura, 1997). When RE teachers observe another RE teacher of comparable ability teaching RE and experiencing success, they are likely to learn from the teacher's modelling, reflect on what they have observed and anticipate being successful, too. Likewise, observing failure could affect self-efficacy beliefs.

The third source of self-efficacy beliefs in a specific domain is verbal or social persuasion (Bandura, 1997). As individuals attend to the messages given to them about the performance of a task, they likely shape their beliefs about their capabilities for that task. This can be in the form of feedback, encouragement, or discouragement.

Persuasion can be positive or negative and the strength of its effect is partly determined by the nature of the relationship between the ‘persuader’ and the person being persuaded. It is conceivable that, in a team of RE teachers, the stories teachers tell about teaching success, about challenges and failures, likely have an impact on teachers’ individual beliefs about their capabilities to achieve the aims of the RE curriculum. In an RE team with a culture of mutual support and encouragement, with strong and positive leadership, individual teachers likely develop their self-efficacy for teaching RE through verbal persuasion. Another source of persuasion in RE teaching may be the students themselves. Teachers of RE who attend to the feedback students give them about their experience of being taught RE will likely influence their beliefs about their capability, that is, their self-efficacy.

The fourth source of self-efficacy is physiological and emotional arousal (Bandura, 1997). The positive feelings that come with success may be expected to enhance the belief in one’s efficacy to perform that task in the future. Remembering the affect associated with a task, whether positive or negative, will likely reinforce the belief, positively or negatively, in one’s self-efficacy for that task. The affective arousal RE teachers may experience when receiving feedback from students about their learning and growth because of their intervention, or the joy they feel seeing children thrive in a learning experience will likely influence how self-efficacy beliefs develop for those teachers. Such arousal states may be expected to shape and reinforce strong schemas about success in relation to teachers’ efforts and may give rise to strong self-efficacy beliefs. When teachers experience arousal states associated with perceived failure in the RE classroom, it can also shape schemas about teaching RE and thus, self-efficacy for teaching RE.

Bandura (1997) explained that personal efficacy beliefs are “linked to distinct realms of functioning” and are “differentiated across major systems of expression within activity domains” (p. 36). The activity of teaching RE to high school students is a complex pursuit made up of numerous subtasks which require a distinct, though overlapping, set of knowledge, skills and dispositions (Bandura, 1997). Individual teachers are likely to possess this set of knowledge, skills and dispositions to different degrees, thus giving rise to different beliefs about their self-efficacy in each of these tasks related to teaching RE. Further, the role of RE teacher, as defined by curriculum and church documents (e.g., Bishops of NSW and the ACT, 2007) requires RE teachers to be responsible for more than the delivery of curriculum. There are expectations that RE teachers will be responsible for the prayer, liturgy, social justice, retreats, and engagement with the local Catholic Church (e.g., Catholic Education Office Melbourne, 2005), and that the role of RE teacher carries with it a transcendental purpose. The Melbourne Catholic Diocese has defined the goal of RE as helping students achieve “a deepened relationship with God, right relationships with others, a greater love of the Church, and empowerment to work to create a just world” (Catholic Education Melbourne, 2018, para. 2). The Diocese of Brisbane, in its RE policy, states that through “religious education centred on Communion, the young person will develop as a member of the faith community”. Teaching RE is therefore complex and multifaceted, and there is likely to be a significant variation in the self-efficacy of teachers for teaching RE.

2.6.2 Collective efficacy for teaching RE.

Bandura (1997) defined collective efficacy as the shared belief of members of a team of the capability of the team to achieve a goal. A team may be defined as two or more individuals who are interdependent in their tasks and identify as a team (Cohen & Bailey, 1997).

Collective efficacy can be mediated by group structure, the nature of the task, and the level of interdependence required of team members (Johnson, 2012). It is also significant that, in highly functioning teams, members generally attend to the complementarity of their own skills and attributes with those of their team mates (Katz-Navon & Erez, 2005). Katz-Navon and Erez (2005) found that when tasks demanded high levels of cooperation, and a combined effort to coordinate skills, collective efficacy became more apparent and more easily distinguished from measures of individual self-efficacy, indicating the importance of task interdependence for the emergence of collective efficacy. It is posited that the collective efficacy of the RE team will likely be related to the self-efficacy of individual RE teachers within that team, because the work of RE teachers is complex, and the coordination of learning in a high school requires teams to operate effectively, and with a shared purpose.

2.6.3 Implicit theories of ability in RE and faith.

Attribution beliefs are an important subset of cognition relating to self-efficacy (Bandura, 1997). Attribution theory (Hsieh & Kang, 2010; Weiner, 1985) posits that beliefs about the causes or sources of one's successes and failures may affect future cognition about that type of achievement. By ascribing causal relationships (attributions) between internal and external experiences and outcomes in goal related behaviours, individuals make assessments to explain reasons for success or failure.

Dweck (2002) and Hong, Chiu, Dweck, Lin, and Wan (1999) argued that individuals develop schemas about intelligence or other aptitudes, which are implicit or latent, and are built on the belief that intelligence or other personal attributes are either fixed or malleable (Dweck, 1975, 1986, 1991, 2000, 2002; Rattan, Good, & Dweck, 2012). These beliefs have been found to relate to motivation and achievement (Dweck, 2002). In an educational setting, Dweck (2002) found that teacher beliefs about whether ability and intelligence were fixed (entity) or malleable (incremental) affected student self-efficacy beliefs, students' persistence, resilience in the face of failure, and their achievement. Dweck (2002) argued that implicit theories relate not only to intelligence, but also to any ability or aptitude, such as sporting ability, skill as a manager, musical ability or parenting. In such settings, teachers may develop schemas which determine, in part, whether they believe they have the capability to bring about change in themselves, or to influence change in their students, based on whether they believe the aptitude on which they are focusing, including RE ability or faith, is a fixed entity or malleable quality. Bandura (1997) has called self-efficacy the 'exercise of control'; implicit theories are theories about whether aspects of nature or the environment are controllable. It is likely, therefore, that implicit theories of RE teachers about whether they can effect change in their students will influence their self-efficacy beliefs.

2.6.4 Intrinsic spirituality.

Hodge (2003) built upon the earlier work of Allport and Ross (1967) and Hill and Pargament (2003) by developing a conceptual framework for the analysis of intrinsic spirituality. Hodge (2003) acknowledged that earlier measures were biased towards theistic definitions of religiosity and were grounded in a Protestant world view. In establishing the terms for a more generalisable construct of religious motivation,

Hodge replaced theistic language with spirituality. Hodge drew on the work of Cascio (1999, p. 130) who defined spirituality as “an ‘intrinsic phenomena [sic],’ as a personal, experiential connectedness with Transcendence or Ultimate Reality that is expressed in one’s beliefs and behaviours” (2003, p. 42). This is not dissimilar to Pargament’s (2013a) definition of spirituality as a ‘search for the sacred’. By building on earlier empirical research into religious motivation, the conceptualisation developed by Hodge focused on intrinsic spirituality as a motivator and sought to remove the duplication and bias of earlier models. Hodge’s (2003) model combines the strength of an empirically tested construct (Allport and Ross’s (1967) intrinsic-extrinsic religious orientation) with a conceptualisation of the “degree to which individuals find their ultimate purpose for life in their spirituality” (Hodge, 2003, p. 55). The model is applicable in an Australian, Catholic, educational context, as it focuses on whether individuals (in this case RE teachers) have spirituality as a broad yet primary motivator in their lives. This is in keeping with the work of Piedmont and Wilkins (2013, p. 180) who explained spirituality as representing “a fundamental, inherent quality of the individual. Such a construct is referred to as a motive”. In the Catholic school setting, intrinsic spirituality may be considered among the most important motives of professional teachers of RE.

2.7 Conclusion

In this chapter an overview of the literature pertaining to the field of SCT was presented beginning with early studies into the relationships between human motivation and behaviour, the emergence of modern psychology, the development of SCT and self-efficacy theory, and collective efficacy and team theory. The history of the psychology of religion was briefly outlined with major concepts and theories described. Finally, these theories and concepts were applied specifically to the activity of teaching religious

education in Catholic schools. The review offered here is necessarily brief and does not purport to be a comprehensive coverage of all the academic work in these areas.

3. THEORETICAL FRAMEWORK

3.1 Introduction

The self-efficacy beliefs of RE teachers for teaching RE are an essential component of their cognition and behaviour in performing their duties and achieving the aims of the RE curriculum in Catholic high schools. The degree to which RE teachers believe they have the capabilities to carry out the necessary actions to support the learning and development of their students in RE will likely determine, to some extent, their success in this pursuit.

A review of past studies of Social Cognitive Theory (SCT) (Bandura, 1986), self-efficacy and collective efficacy (Bandura, 1997, 2000), attribution theory (Weiner, 1985), implicit theories (Hong et al., 1999), and the role of spirituality in motivation (Pargament, 2013c) suggests that self-efficacy may be related to collective efficacy for teaching RE, implicit theories and intrinsic spirituality in the context of RE in Australian Catholic high schools. In this chapter, after identifying and conceptualising key constructs of the study, theoretical arguments and hypotheses are developed.

3.2 Theoretical Framework and Research Hypotheses

In this section, the theoretical foundation of the study is explained from the perspective of SCT and a theoretical framework is presented. Key arguments and hypotheses are developed in the following sections.

Triadic reciprocal causation in SCT (Bandura, 1986, 1997) explains how RE teachers' cognition about their teaching of RE, their belief in the collective efficacy of their team, their implicit theories about the faith and ability of their students and students' intrinsic spirituality, will be related to their experience of teaching RE, thus influencing their behaviour and further influencing their self-efficacy for teaching RE. This set of relationships is represented diagrammatically in Figure 4. In the model presented in Figure 4, four inputs at the RE teacher unit of analysis (Level 1) are identified as potentially influencing self-efficacy

for teaching RE: implicit theory of faith, implicit theory of student ability, intrinsic spirituality, and several individual demographic factors. At the school unit of analysis (Level 2), it will be argued that the collective efficacy of the RE team, and several features of the school may influence RE teachers' self-efficacy. The dashed lines from the demographic features and the school features indicates that the influence may be indirect or residual.

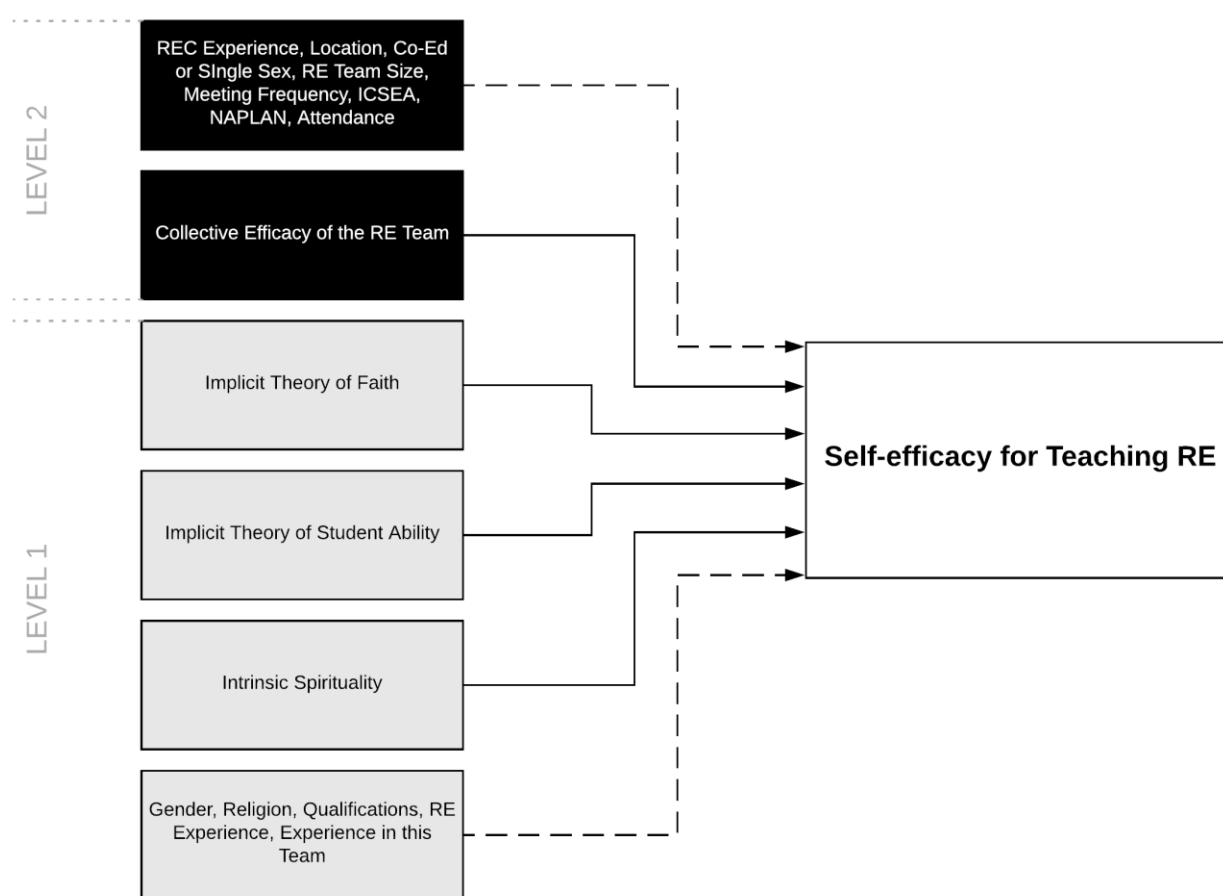


Figure 4. Theoretical framework denoting the inputs into self-efficacy for teaching RE

Bandura (1997) explained self-efficacy in terms of the way individuals exercise control over their lives based on their self-efficacy. SCT is based on the inter-relationships between cognition, behaviour, and the environment. Significant experiences, feedback, and the way teachers attend to and reflect on their experience of teaching RE, are all likely to

affect how RE teachers develop self-efficacy. This research seeks to develop a model to describe certain variables that are likely to be related to self-efficacy for teaching RE. The three key inputs of RE teacher self-efficacy, collective efficacy of the RE team, the implicit theory RE teachers hold about faith and ability in RE, and the intrinsic spirituality of RE teachers are all salient variables which will likely affect teachers' self-efficacy for teaching RE because they have been identified as contributing to motivation.

This framework seeks to explain how collective efficacy of the RE team, implicit theories and intrinsic spirituality may relate to self-efficacy for teaching RE. The constructs will be examined to assess the degree to which they are related to self-efficacy for teaching RE. The following sections posit these relationships.

It was decided that demographic variables (gender, religion, qualifications, and experience) and environmental variables (REC experience, school location, co-educational or single sex, RE team size, meeting frequency, ICSEA, NAPLAN, and attendance) would be included in the framework to examine how they contribute to self-efficacy for teaching RE, as well as to identify and control for their effect.

3.2.2 Teacher self-efficacy for teaching RE and collective efficacy beliefs of the members of the RE team.

The shared goal of teachers in an RE team in Catholic high schools is to teach students about the Catholic faith and to grow this faith in the students (National Catholic Education Commission, 2018b). It follows that the degree to which an RE team shares a belief in their collective power to produce desired results is the team's collective efficacy for teaching RE (Bandura, 2000). Bandura (1997) stated that collective efficacy is an emergent phenomenon, distinct from, but closely related to, self-efficacy. Gully, Joshi, Incalcaterra, and Beaubien (2002) explained that the interactions between team members likely influence

the members of the team and their belief in their collective capability to achieve a shared goal. Although the beliefs individuals develop about the team's capability to achieve its goal is measured at the individual level, the analysis of these beliefs about the team will be treated as a unit of study at the team level. The collective efficacy of RE teams is studied as level 2 phenomenon, which is supported by Gully et al. (2002, p. 827), who identified "the need to match the level of statistical analysis with the level of theory".

Bandura (2000) demonstrated how the strength of a team's collective efficacy can determine how likely the team is to work cohesively, with effort and exhibiting mutual support. In the context of an RE team, it may be argued that individuals in teams which comprise members who have strong collective efficacy beliefs about the team's capability to teach RE will likely have strong self-efficacy beliefs because such teams will be more likely to provide experiences of mastery, vicarious mastery and verbal persuasion with regards to teaching RE.

Hypothesis 1: Collective efficacy will positively predict self-efficacy for teaching RE.

3.2.3 Teacher self-efficacy for teaching RE and teachers' implicit theories of student faith and student ability in RE.

For the purposes of this research, the 'implicit theories' construct (Dweck et al., 1995) has been applied to teachers' implicit theories about student ability in RE and teachers' implicit theories about student faith.

RE teachers are likely to have implicit theories about whether their students' ability in RE and their students' faith are fixed entities or malleable because of their experience in observing how students respond to their teaching over time. RE teachers who have an implicit theory that student ability in RE is malleable are more likely to see their work as

purposeful because students can change and grow over time as a product of the teacher's efforts and interventions. In terms of faith, teachers who hold an implicit theory that people may change and grow in their faith over time as a result of spiritual modelling (Bandura, 2003), maturity and experience are likely to embrace the opportunity to influence students to pursue the development of their faith. RE teachers who have developed an implicit theory that faith and ability in RE are relatively fixed entities likely will form judgments that their efforts may be somewhat futile. Therefore, teachers with fixed mindsets will see their efforts as largely wasted due to their implicit theory that their students' faith and ability in RE are fixed and beyond the effect of the teachers' efforts. This is likely to have an impact on RE teachers' self-efficacy as they are not likely to persist in those behaviours that may bring about change and are less likely to experience mastery and the positive arousal that comes with it.

Hypothesis 2: Teacher implicit theories about student RE ability will predict teacher self-efficacy for teaching RE.

Hypothesis 3: Teacher implicit theories about student faith will predict teacher self-efficacy for teaching RE.

3.2.4 Self-efficacy for teaching RE and teachers' intrinsic spirituality.

The way teachers of RE approach their 'search for the sacred' (Pargament et al., 2005) may be expected to be related to their self-efficacy for teaching RE. Spirituality is "a fundamental, inherent quality of the individual" (Piedmont & Wilkins, 2013, p. 180), and spirituality will likely relate to variables that impact on RE teachers in their work, including self-efficacy, the collective efficacy of their team and their implicit theories about students' ability and students' faith. This is because spirituality has been identified as an irreducible motivator (Piedmont & Wilkins, 2013). Piedmont and Wilkins (2013) explained that

spirituality plays a role in the development of schemas within a context that acknowledges the existential nature of human life. They found that spirituality helped to support both religiousness and psychological wellbeing as it provided a framework for making meaning and a sense of purpose. This is related to self-efficacy in that such meaning making and purpose will likely motivate teachers of RE to persist in those behaviours that lead to mastery. Pargament (2013b) suggested three spiritual phenomena were key to understanding the role of spirituality in human psychology: the way individuals perceive sacredness, the way they report spiritual motivation, and the process of their spiritual evolution over the course of their life. Each of these phenomena is relevant because they relate to cognition and motivation of teachers of RE and feed into the triadic relationship between RE teachers' behaviour, their cognition about their goals and behaviours, and the Catholic school environment within which they are working. There will likely be a relationship between teachers' intrinsic spirituality and their self-efficacy for teaching RE, as both grow out of this triadic relationship.

The development of spirituality is a complex and dynamic process shaped by experiences and cultural formation throughout life, meaning that spirituality is necessarily different for each individual (Park et al., 2013). Hodge's (2003) construct of intrinsic spirituality as a motivator assesses the "degree to which individuals find their ultimate purpose for life in their spirituality" (2003, p. 55). Intrinsic spirituality, therefore, is included in this framework because it may contribute to the motivation and cognition of RE teachers and likely will be related to the beliefs they hold about their capabilities to teach RE. Those teachers who have developed a more mature and stable intrinsic spirituality, which they look to as a primary motivator in their lives, are likely to persist in those behaviours which lead to mastery in RE classrooms which is necessary for the development of self-efficacy.

Hypothesis 4: Teacher intrinsic spirituality will positively predict self-efficacy for teaching RE.

3.2.5 Other areas for investigation.

In addition to the hypotheses related directly to the theoretical framework, there are a number of research questions posited.

Research Question 1: What are the differences, if any, between the categorical variables at Level 1 (gender, religion, and qualifications) in self-efficacy for teaching RE?

Research Question 2: Is there a relationship between any of the continuous variables at Level 1 (experience in RE and experience in current school) in self-efficacy for teaching RE?

Research Question 3: What are the differences, if any, between the categorical variables at Level 2 (Location, Co-educational or single sex) in self-efficacy for teaching RE?

Research Question 4: Is there a relationship between variables at Level 2 (team size, meeting frequency, REC experience, NAPLAN aggregate, ICSEA, and attendance rate) and self-efficacy for teaching RE?

3.3 Conclusion

In this chapter, the theoretical concepts central to this study were identified and explained. The relationships between these variables were discussed in theoretical terms and a model of these relationships was posited as a theoretical framework. Hypotheses about each of these relationships and some additional areas for investigation were presented.

4. METHODOLOGY

4.1 Introduction

In this chapter, different methodological issues and techniques that may be employed to collect and analyse data and mixed methods approaches are explained. A distinction is made between methodology and method. Methodology, in this thesis, is an explanation of the terms and processes applied in the research. Methodology provides an overview of the techniques used by social scientists to explore and test hypotheses and a justification for the decisions to use certain techniques in this study. The term ‘method’ is used to describe the actual sequence of procedures used to conduct this research and will appear in the analysis chapter. In this chapter, survey methodology, quantitative and qualitative research are discussed. Then, some quantitative analytical techniques, namely principal components analysis and multilevel regression, are explained. In addition, methodologies associated with collecting and analyzing qualitative data obtained from open-ended responses are discussed.

4.2 Methodological Issues of The Study

4.2.1 Nonexperimental research.

This study is nonexperimental in nature (Kerlinger, 1986). According to Kerlinger (1986), “nonexperimental research is systematic empirical inquiry in which the scientist does not have direct control of the independent variables because their manifestations have already occurred or because they are inherently not able to be manipulated. Inferences about relations among variables are made, without direct intervention, from concomitant variation of independent and dependent variables” (p. 348). This approach is used to examine the theoretical constructs and hypotheses developed for this study.

It should be noted that relationships between variables should be distinguished from causal relationships, because there may be many other variables, any one of which or any

combination of which cannot be measured and controlled during a study (Woodward, 2005). Furthermore, it is impossible to empirically establish causality in phenomena that have already occurred (Woodward, 2005).

4.2.2 Mixed methods approach.

Mixed methods research can involve quantitative and qualitative methods, either simultaneously or sequentially. Human behaviour and motivation are complex and an empirical description drawn from several sources of data is more likely to be robust. Schmitt (2006) argued for multimethod assessment of psychological phenomena due to the “multidetermination of human behaviour” (p. 12).

The selection of either a quantitative, qualitative or mixed methods approach must be suited to the nature of the problem or hypotheses being examined. Creswell (2003) argued that, when a problem is based on the relationship between circumstances and outcomes, then a research design using quantitative data is preferable. Such a design is also useful to test a hypothesis or theory, or to build a theoretical model based on empirical evidence. If, however, the researcher is seeking to develop a conceptual understanding of a phenomenon, then a qualitative approach may allow for a more holistic and nuanced set of data for analysis.

Creswell explained that a mixed methods approach should be chosen when “a researcher may want to both generalize the findings to a population and develop a detailed view of the meaning of a phenomenon or concept for individuals” (2003, p. 22). Mixed methods design is often cited as a means by which researchers may triangulate data using one research method by comparing it with data collected using a different research method (Mark & Shotland, 1987; Webb, 1973). Rossman and Wilson (1985) identified three purposes for mixed methods research: (a) corroboration of one set of data with another set of data gathered

using a different design; (b) elaboration of data by adding detail and depth using a second or subsequent method of inquiry; and (c) initiation of a new interpretation or novel understanding of the concept being studied. Emerging from such an understanding of the diverse purposes of mixed methods research is the cautionary note that the mixed methods themselves may have an impact on the study. Greene, Caracelli, and Graham (1989) warned that the stated objective of using mixed methods for triangulation must account for the complementarity of the methods chosen and for the possibility of unwanted bias or interaction between the methods. In strong mixed method design, the methods should account for the limitations and weaknesses of the other methods used (Greene et al., 1989).

There are, according to Greene et al. (1989), three critiques of mixed methods research. The first may be termed 'purist', which rejects the notion that a research question can be answered by using tools from two research methods (Smith & Heshusius, 1986). This is because the methods are founded on different and sometimes exclusive assumptions about ways of knowing. The second critique described by Greene et al. (1989) is termed 'pragmatist' and is based on the understanding that research paradigms are logically independent and should be seen as diverse tools with which to address the research problem. This view holds the research problem as the primary concern and that the tools, if they are independent and useful, are subordinate to the problem (Reichardt & Cook, 1979). The third critique is described by Greene et al. (1989) as 'situationalist', in that the researcher must preserve the paradigmatic integrity of the methods chosen, but carefully find convergence in the data yielded by the different methods. The data gathered using one method must not be conflated with data from a different method.

Towards the end of the 20th Century, there had emerged an argument to reconsider the polemicism that had characterised the evaluation of qualitative research as being less rigorous

than quantitative research and to adopt, instead, more of the pragmatic appreciation of mixed methods (Morgan, 2007). Pearce (2012) explained that the two broad paradigms of quantitative and qualitative research are not always distinct and independent. For example, qualitative research (or metaphysical research as it was termed by Pearce) does not always begin without reference to *a priori* frameworks, theories or contestable hypotheses. In this sense, such research methods are not purely inductive. Pearce (2012) also argued that quantitative research design is not always perfectly deductive in its approach as it may involve steps which are recursive or reflexive. A more realistic, real world understanding of mixed methods research is that it involves an ongoing dialogue between inductive study and deductive study, between objective and subjective modes of enquiry, in order to establish findings which are coherent, rigorous, and valid.

Mixed methods research combines techniques from qualitative and quantitative methods in order to provide a valid multidimensional explanation of phenomena.

4.2.3 Sampling.

According to Thompson (2012), sampling “consists of selecting some part of a population to observe so that one may estimate something about the whole population” (p. 1). In research design, investigators generally ask: (a) how the sample is to be selected from among the population; (b) how large the sample should be; (c) what data collection techniques suit the sample; and (d) how the data, once collected, should best be treated so as to approximate the characteristics of the entire population (Thompson, 2012). Thompson (2012) suggested that sampling is a cornerstone of quantitative research, in that it “concerns every aspect of how data are selected, out of all the possibilities that might have been observed, whether the selection process has been under the control of investigators or has been determined by nature or happenstance, and how to use such data to make inferences

about the larger population of interest” (p. 2).

In the 19th Century, population researchers generally believed that the only accurate and meaningful way of studying social phenomena was to gather data on the entire population concerned and examine it (Brewer, 2013). According to Brewer (2013), it was not until Aders Kaier proposed a representative method of statistical research that sampling became a tool for making generalisations about entire populations. Kaier believed “a ‘partial investigation’, based on a subset of the population units, could indeed provide such information, provided only that the subset in question had been carefully chosen to reflect the whole of that population in miniature” (Brewer, 2013, p. 250). Kaier’s methods were not well received by the statistical community of the time as they were not sufficiently robust when tested and appeared to be subjective (Brewer, 2013).

A significant development in this debate was the insistence by Neyman (1934) that samples of larger populations could only be considered valid if they were assembled by drawing each sample randomly, such that any unit of the total sample has equal probability of being selected in the total population. Further, Neyman (1934) proposed a system for accounting for the sampling error that exists when one is not examining the entire population. Mathematically, it is possible to predict the amount of error that may be found in a sampled value based on the relationship between the sample size, the population size, the sample mean and the sample variance. In this way, it is possible to make estimates and predictions based on a random sample by accounting for the standard error in any statistical estimation (Thompson, 2012).

Neyman (1934) developed the concept of confidence levels, a measure defined by Brewer (2013) as “a sample-specific range of potentially true values of the parameter being estimated, which has been constructed so as to have a particular property. This property is

that, over a large number of sample observations, the proportion of times that the true parameter falls inside that range (constructed for each sample separately) is equal to a predetermined value known as the confidence level” (p. 251-252).

Although simple random sampling continues to be a reliable approach to selecting a sample from a population, contemporary approaches to sampling may include a combination of random sampling and structured sampling, such as stratified sampling (Thompson, 2012). This method employs knowledge about the structure of a population in order to select proportional random samples from units within the population. For example, in agriculture, a farm may be divided into equally sized plots. In selecting a sample from the farm, a random selection of plants may be drawn from each of the plots. Likewise, if the plots are of different sizes, the number of samples to be drawn from each plot may be in proportion to the size of that plot relative to the total growing area of the farm. Stratified sampling allows for both randomisation and a meaningful representation of the distribution of samples among the entire population. It allows the sample to be more representative of any diversity known to exist among the population (Thompson, 2012). Another sampling technique is extreme case sampling. This method identifies subsamples whose characteristics place them at either end of the frequency distribution for a random sample so as to examine the features of the subsample that explain their position at the ends of the distribution, thus providing insight into factors affecting the whole sample (Thompson, 2012).

The method of sampling, as an important consideration of research design, must be matched to the purposes of the research and to the nature of the population being studied. In the present study, a stratified random sample meets all the criteria (Thompson, 2012) for a purposeful and reliable sampling method.

4.2.4 Survey methodology.

The term survey can refer to a range of data collection strategies, both quantitative and qualitative.

4.2.4.1 Surveys and questionnaires.

A survey is a pre-structured research design (Punch, 2003) which seeks to “provide a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population” (Creswell, 2003, p. 153). It is a method of extrapolating from a sample to make generalisations about a population. A survey is a measure taken at a particular point in time “with the intention of describing existing conditions” (Cohen, Manion, & Morrison, 2000, p. 169) in order to build or illustrate a theoretical model of an aspect of the world. Gaski (2013) explained that surveys are either conducted through communication with participants (written or face-to-face) or via observation. He also warned that the term survey should not be used interchangeably with questionnaire, as ‘survey’ is a research design, whilst a ‘questionnaire’ is a data collection method. A questionnaire may be self-administered (pen and paper, or via a computer or other digital device) or conducted in an interview setting. Although questionnaires are one method for gathering data, observation, counting instances of a behaviour, and analysing an environment for the distribution of particular features are all examples of research surveys (Coughlan, Cronin, & Ryan, 2009). A cross sectional survey captures data at a point in time, whilst a longitudinal survey captures data at a series of temporal points (Babbie, 1990). Coughlan et al. (2009) identified correlational survey research as another category of survey use. In correlational surveys, the researcher is seeking to describe and compare the relationships between variables being measured by the items in the survey (Coughlan et al., 2009).

The use of self-administered questionnaires to gather data from respondents to

describe psychological phenomena is a common survey method (Weisberg, Krosnick, & Bowen, 1996). The responses to the questionnaire seek to represent variables identified *a priori* in a conceptual framework, so as to “find out how different variables are related to each other, and why” (Punch, 2003, p. 19). Cohen et al. (2000) highlighted three concerns that should be foremost in planning a survey research design and questionnaire method: (a) the purpose of the enquiry; (b) the population upon which the survey is focused; and (c) the resources available with which to conduct the survey. These concerns then shape the planning and implementation of the survey.

A questionnaire should include a clear statement to the respondents about the research and what is expected of them (Weisberg et al., 1996). It should also address matters of consent and prepare respondents so that, as far as is possible, they do not experience distress or cognitive dissonance while answering the questions (Coughlan et al., 2009). For example, it is important to remind the respondents that their privacy and confidentiality is assured at all stages of the research (Weisberg et al., 1996). This allows respondents to answer items believing that they will not suffer adverse outcomes by participating in the research.

Questions can be closed-ended or open-ended. Open-ended questions give respondents the opportunity to use free-form language to express their answers to questions (Weisberg et al., 1996). This may be in the form of a single word, a sentence, or a longer response. The data gathered from open-ended items are treated as qualitative data (although some quantitative, linguistic analysis can be conducted on open ended items) (Reichardt & Cook, 1979). Items which offer respondents a series of options from which to choose are closed-ended questions (also known as ‘forced-choice’ items). These are often presented as response scales and are used to gather quantitative data (Babbie, 1990). A common format is to read a statement and ask respondents to rate their agreement using a scale, for example,

from strongly disagree to strongly agree.

There are several advantages of using a survey to collect data to study phenomena. It allows the researcher to “gather information about the incidence and distribution of, and the relationships that exist between, variables in a predetermined population” (Coughlan et al., 2009, p. 9). Surveys generally are cost-effective, especially when they are applied to a sample rather than an entire population.

Coughlan et al. (2009) identified limitations of survey use, including problems of validity and reliability. The validity of a survey is the extent to which the survey measures the phenomenon it is designed to measure. The validity of a survey can be affected by poor item design, where items do not measure the phenomenon they are meant to measure. Validity can also be impacted by poor instructions, item ambiguity, or by poor visual design of paper or online questionnaires (Coughlan et al., 2009). Survey reliability is the degree to which the questions used in a survey elicit the same type of information each time they are used under the same conditions (Alwin, 2007). The reliability of a survey relates to the consistency of the instrument, the internal consistency of items within scales, and the replicability of the survey across a sample of the population. If one respondent understands the items in a survey differently from another respondent, then this will have an impact on the survey’s reliability. These deficiencies are known as measurement errors and will result in data that do not validly measure the variables driving the research design (Babbie, 1990; Coughlan et al., 2009; Punch & Punch, 2003). Surveys are also susceptible to sampling errors, including non-representativeness and nonresponse errors. The disadvantages of survey methodology can mostly be addressed through robust survey design and high quality sampling procedures, although it is impossible to create a perfect survey or enlist a perfectly statistically representative sample (Coughlan et al., 2009). The principles of robust survey design include

a detailed theoretical understanding of the phenomena being studied, the development of items which are unambiguous and clear, testing the survey items with either an expert group or a pilot study, providing clear instructions to the respondent, providing a clear and easily navigated survey interface (on paper or a computer screen) (Punch & Punch, 2003).

With the broad accessibility of computers and other digital communication devices (e.g., mobile phones, tablets), survey questionnaires can be readily distributed and responded to online. Wright (2006) identified three advantages of conducting surveys online: (a) ease of access to populations and samples within populations; (b) the time saved by the asynchronous nature of the online survey; that is, the researcher does not need to engage with the respondent in real time; and (c) the low cost involved in distribution and collection of surveys over the internet. Another advantage identified by Tuten (2010) is that respondents are likely to feel more anonymous when answering questionnaires on a computer than when answering face-to-face with an interviewer, thus increasing the likelihood of honest responses.

Online surveys have limitations, including: (a) the researcher cannot be positive about the identity of the respondent; (b) non-response error caused by technology or usability issues; (c) samples may be skewed towards respondents with adequate technology access and skills, known as sample coverage error; and (d) measurement error caused by poor questionnaire or interface design (Lefever, Dal, & Matthíasdóttir, 2006; Tuten, 2010; Wright, 2006). As with any social scientific research, online surveys require a valid and representative sample of the population being studied, clear instructions, a set of items carefully designed to measure the variables the hypotheses, and an interface design that does not hinder the thoughts and actions of the respondents (Reips, 2010).

4.2.4.2 Scales and scale development.

Harman (1960, p. 5) wrote that “...a principal objective of factor analysis is to attain a parsimonious description of observed data” and that scales seek to simplify observed data into manageable units. Scales are “measurement instruments that are collections of items combined into a composite score and intended to reveal levels of theoretical variables not readily observable by direct means” (DeVellis, 2017, p. 15). DeVellis (2017) described survey items as indicators of constructs that cannot necessarily be directly measured (e.g., job satisfaction). The constructs on which items in a scale are based are derived from the theoretical framework which underpins a study and are inherent in the research hypotheses. In this sense, the items in a scale act as “proxies for variables” (DeVellis, 2017, p. 23). The underlying construct which informs the construction of items and which those items are meant to represent is known as the latent variable, latent in that it is not readily observable or measurable, but is made apparent through other means, such as questions about beliefs, attitudes and behaviours. Bartholomew, Knott, and Moustaki (2011) explained that a latent variable is a “summarizing concept which comes prior to the indicators of it which we measure” (p. 2). A latent variable in social scientific and psychological research, which may use self-report questionnaires, is assumed to be the cause of the response to items in a scale, such that “the strength or quantity of the latent variable (i.e., the value of its true score) is presumed to cause an item (or set of items) to take on a certain value” (DeVellis, 2017, p. 25). MacCallum and Austin (2000, p. 202) wrote that latent variables “are hypothetical constructs that cannot be directly measured”. When items in a scale are designed to measure the same latent variable however, the researcher can measure the correlation between the items. If the items are validly measuring a latent variable, then the researcher would expect to see the items correlating with each other for respondents. Well designed items will achieve

this internal consistency, measured by the Cronbach's Alpha statistic.

Different types of measurement scales can be used in the development of a questionnaire (DeVellis, 2017). These may be binary (e.g., agree or disagree) or a scale representing a range of response options, such as from strongly disagree to strongly agree over a five-point scale, sometimes known as a Likert-type Scale (Weisberg et al., 1996). Other measures can include frequency (e.g., How many times in the past week have you caught public transport? (a) none; (b) once; (c) twice; (d) three times; or (e) more than three times.), or any self-reported attitude, belief or behaviour that can be reported by degrees, increments or categories established in the questionnaire. Self-efficacy scales (described in detail in the next section) generally use a self-report of respondents' beliefs in their capabilities to do successfully certain things, scored on an 11-point scale from 0% confidence to 100% confidence. Measurement scales such as these yield data that are appropriate for quantitative analyses, such as regression modelling or structural equation modelling (Johnson & Morgan, 2016).

As was previously explained, survey reliability relies heavily on the design of items and scales. The reliability of a scale can be understood as “the proportion of variance attributable to the true score of the latent variable” (DeVellis, 2017, p. 39). The aim of the researcher is to, as far as possible, limit or control for variance that may be attributable to sources other than the latent variable. All items and scales will have some error variance. (DeVellis, 2017).

4.2.4.3 The development of self-efficacy scales.

According to Bandura (2006), self-efficacy scales are generally arranged along a response scale on which respondents rate their confidence that they can do a certain thing. Bandura (2006) suggested that instructions for completion of the items should use language

that places participants in the correct mindset for the task, avoiding outcome expectancy thinking. Scales developed to measure self-efficacy should not use language that asks the respondent about the likelihood of them achieving a goal, but about their capability of doing something. As identified by Dellinger, Bobbett, Olivier, and Ellett (2008), “beliefs about ability to attain outcomes confound self-efficacy and outcome expectations, not allowing for separation of beliefs about ability to perform behaviours and beliefs about the nature (i.e., responsiveness, controllability, punitiveness, etc.) of the environment” (p. 754).

Bandura (2006) explained that self-efficacy beliefs can vary in generality, the degree to which the belief applies over a range of related behaviours, and in strength. Respondents likely will ascribe more importance to some items than others, so there should be a range of items in the scale so that some are more fundamental to aspects of an individual respondent’s self-efficacy. Thus, it is important that items accurately capture both the specifics of task related thinking and the purpose and meaning of tasks. Bandura (2006) recommended that self-efficacy items should not be ambiguous, should allow for sufficient levels of challenge and gradations of performance, and should not have censored items, that is, items which have a minimum or maximum implied.

The number of steps on the response scale is an important consideration, as too few steps can lead to low sensitivity and low reliability. This is because people generally avoid the two extreme responses, effectively reducing the number of steps by two (DeVellis, 2017; Kiesler & Sproull, 1986; Korkut Altuna & Arslan, 2016). Further, individuals may be able to make precise judgements in their response if more steps are available. Whilst some self-efficacy scales, such as the Teachers’ Efficacy Beliefs System—Self Form (TEBS-Self) (Dellinger et al., 2008), require respondents to answer on a 4-point scale (1 = very weak belief in my capabilities, 2 = moderate belief in my capabilities, 3 = strong belief in my

capabilities, and 4 = very strong belief in my capabilities), Bandura (2006) argued for an eleven-point scale on which to rate the strength of respondents' beliefs, because scales with fewer steps are less sensitive and less reliable.

4.2.4.4 The development of collective efficacy scales.

Collective efficacy scales generally are developed using the same principles as for self-efficacy scales, and responses are generally on an 11-point scale from 0% confidence to 100% confidence that the team or group has the capability to do something. Bandura (2006) referred to this construct as “perceived collective efficacy” (p. 316), as cognition fundamentally occurs within an individual. Goddard (2002) identified the unit of analysis as the challenge in measuring collective efficacy, because the latent variable ‘collective efficacy’ exists at the level of the group or team as a level two variable, yet its measurement occurs, usually, at level one with the individual as the unit of analysis. Bandura (2006) examined two methods for the measurement of collective efficacy. The first aggregates individual team members’ appraisals of their own capabilities (self-efficacy) and the second method aggregates individuals’ assessments of the capabilities of the group or team as a whole. Sirotnik (1980) argued that, when a researcher seeks to study group or team phenomena within a context of nested data, collected at the individual level, the items of the scale must only represent features of the group or team, not the individual, as aggregating responses about individuals to describe group phenomena is not valid. Goddard (2002) wrote that “psychometric analysis of the Collective Efficacy Scale should be conducted using school-level aggregates of teachers’ responses to the scale items” (p. 101). Bandura (2006) agreed that the aggregation of individual beliefs about the capabilities of the team is a more valid method as it “encompasses the coordinative and interactive aspects operating within groups” (p. 316). Notwithstanding, individual level analysis of collective efficacy has

occurred (e.g., Alavi & McCormick, 2018).

4.3 Statistical Techniques

Quantitative techniques used in this study are introduced and briefly explained in the following sections.

4.3.1 Common factor analysis and principal components analysis.

Factor analysis is a statistical technique used to reduce a large number of interrelated variables to a smaller set of derived, underlying factors (Hair, Black, Babi, & Anderson, 2010). If some of the observed variables are correlated with one another, factor analysis may cluster them into factors or components. Whilst some authors treat factors and components as interchangeable terms describing items gathered into indicators of an underlying variable, De Vellis (2017) argued that factors represent “idealized, hypothetical variables we estimate” while components are “alternative forms of the original items with their information combined” (p. 194). In this research, we use the term ‘factor analysis’ to describe the general process of reducing dimensions in a set of data and ‘components’ to describe categories of items subject to further interpretation and validation. De Vellis (2017) made the further distinction that factors are a priori phenomena described by the responses to the items, whereas components are a product of the pattern of responses to the items. However, in the current research, the term factor applies to the resolved components at the conclusion of principal components analysis or factor analysis.

There are two main approaches to factor analysis: exploratory factor analysis and confirmatory factor analysis (Hair et al., 2010). The exploratory approach is used when a researcher is attempting to reveal and explore an underlying structure among a set of variables. Exploratory factor analysis is closely related to principal components analysis, as

the researcher seeks to extract the principal, or most statistically significant, components identified by an analysis of the relationships between variables (Hair et al., 2010). Data gathered from surveys are often subjected to exploratory factor analysis or principal components analysis as a means by which the researcher can derive a structure or model with which to describe the phenomena examined by the survey (Cohen, Manion, & Morrison, 2011). The confirmatory approach to factor analysis aims to describe the relationship between factors that exist in the theoretical framework and survey design. The process of exploratory factor analysis is made up of a series of steps which are briefly described in the following sections.

4.3.1.1 Creation of a correlation matrix.

The first stage of regression analysis is to compute the correlation matrix for all the observed variables. The correlation matrix is the key input for exploratory factor analysis basically because, historically, this was how the technique was developed (Tabachnick & Fidell, 2013). There will likely be some correlation between components if the instrument was designed to measure related concepts. Some variance, however, is essential for regression analysis. It has been suggested that variables which do not have significant correlations with any other variables should be excluded from exploratory factor analysis (Coakes, 2013; DeVellis, 2017). Where there are significant and strong correlations ($r > .60$), the researcher must consider whether the variables are measuring distinct phenomena, or the same. It is conventional for components with a Pearson coefficient greater than .70 to be excluded from regression analysis, as they may be either redundant or confounding (Belsley, Welsch, & Kuh, 1979; Tabachnick & Fidell, 2013). The correlation between two independent variables is called collinearity, and between multiple independent variables is called multicollinearity.

4.3.1.2 Testing the adequacy of sample size and suitability for factor analysis.

According to Hair et al. (2010) and Maas and Hox (2005) generally the larger the sample size, generally, the more powerful the outcome of the factor analysis and regression analysis. It has been suggested that a minimum sample size of 100 subjects is adequate, but more than 200 subjects increases the reliability of the analysis (Coakes, 2013; Hair et al., 2010; Maas & Hox, 2005). DeVellis (2017) explained that when the goal of factor analysis is to develop a psychometric scale, sample size, along with the number of items and the number of scales to be extracted, all have a bearing on the quality of the factor analysis, and argued that “the sample should be sufficiently large to eliminate subject variance as a significant concern” (p. 137). It is, however, impossible to eliminate all subject variance from data collected via a survey. Whilst samples above 300 are judged to be preferable for factor analysis and scale development, very reliable and valid factors can be extracted from smaller samples (DeVellis, 2017).

Dziuban and Shirkey (1977) reported on the use of the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) for factor analysis. When data are subjected to KMO analysis and yield KMO values approaching one, the data are judged to be suitable for factor analysis. Bartlett’s Test of Sphericity can also be applied to multivariate data to judge their adequacy for factor analysis. The test determines if there is insufficient variance in the data to warrant the extraction of components or factors, making a case for the null hypothesis that the data describe a single variable (known in this context as an identity matrix) (Meyers, Gamst, & Guarino, 2017).

4.3.1.3 Extraction of components.

There are a number of mathematical approaches to component extraction appropriate to different research methods that have been thoroughly described in the literature

(Bartholomew et al., 2011; Hair et al., 2010; Klein & Kozlowski, 2000; Meyers et al., 2017).

Principal components analysis relies on the analysis of three types of variance in the data:

common, unique and error variance (Brown, 1998). Common variance is the variance shared with all of the variables. Unique variance is the measure of variance which is specific to one variable and error variance is the measure of the random error inherent in the data. Principal components analysis is primarily concerned with the measure of total variance. In principal components analysis, linear combinations of the variables are computed, and clusters of common variance are identified as possible components describing underlying variables. An eigenvalue represents the variance accounted for by a variable (Hair et al., 2010) or “the amount of information captured by a factor” (DeVellis, 2017, p. 166). The first component identified has the largest eigenvalue, and subsequent eigenvalues decrease in size as each subsequent component is identified. Researchers generally set an eigenvalue threshold, below which a putative component is not considered for interpretation. Usually, this threshold is set at eigenvalues greater than or equal to one (Hair et al., 2010). An eigenvalue less than one indicates a factor or component represents less information than a single item, making the component illogical in terms of data reduction. A scree plot is another method for deciding which components are acceptable for further analysis. A scree plot shows the percentage of total variance accounted for by each extracted component (DeVellis, 2017). By examining the point on the plot where the plot drops away (sometimes referred to as the ‘elbow’ of the plot), a decision can be made to include only components before that point. Hair et al. (2010) suggested that the component after which there is the sharpest drop in percentage variance should be the final component included in the solution. Both methods provide only basic information about the structure of the data, and do not allow scope for detailed analysis and interpretation. The solutions suggested by these methods are only valid if they provide a

cohesive model and can be understood in terms of the theoretical framework which underpins the study (Weisberg et al., 1996). De Vellis (2017) argued that a factor is interpretable “to the extent that the items associated with it appear similar to one another and make theoretical and logical sense as indicators of a coherent construct” (p. 167).

Principal components analysis generates a set of component loadings for each item or observed variable. These loadings are expressed as a value between $-.99$ and $.99$, and represent the degree to which that item loads on the identified component. It is desirable to have observed variables load onto only one component, generating a simple component solution (Hair et al., 2010). It is more common for observed variables to load onto multiple components, with different loadings. Generally, loadings greater than $.30$ are considered acceptable for inclusion in the solution (Hair et al., 2010). Hair et al. (2010) warned that the significance of factor loadings is susceptible to sample size and that factors derived from samples less than 200 should have loadings greater than $.40$ to be considered significant, with samples smaller than 200 requiring higher loadings. Cross-loading is when an item loads on multiple components at values greater than $.30$. When this occurs, the researcher must decide if there is a good theoretical fit for the strongest loading with the identified component, or the item may need to be excluded from the analysis and the computation repeated (Hair et al., 2010). The analysis is repeated until a coherent solution, with interpretable components, is achieved.

4.3.1.4 Component matrix rotation.

For component solutions that have more than one component it is usually necessary to rotate the axes of the component matrix to aid the interpretation of the components. Hair et al. (2010) explained that the effect of rotating the component matrix is “to redistribute the variance from earlier factors to later ones to achieve a simpler, theoretically more meaningful

factor pattern” (p. 111). This makes the loadings more interpretable. The two broad categories of rotation are orthogonal (which constrains the factors to be uncorrelated) and oblique (which allows correlated factors) (Hair et al., 2010). For data where there are high degrees of correlation, an oblique rotation method, such as Oblimin, often yields the most interpretable component matrices (Hair et al., 2010).

4.3.1.5 Labelling components

Once a coherent component solution has been generated labels are created for each component. This is to clarify the meaning of each component and is done by making a judgement about the shared meaning of each observed variable loaded on that component. The researcher should examine these in relation to the theoretical framework, which underpins the study, as well as in relation to the hypotheses and research questions, which framed the survey. By doing this, the validity and coherence of the resolved components can be established (Hair et al., 2010).

4.3.1.6 Factor scores.

Once the factors have been adequately solved, the factor scores may be generated. A factor score is a “composite measure created for each observation on each factor extracted in the factor analysis” (Hair et al., 2010, p. 90). Thus, in a survey, a factor score is generated as a standardised measure of each respondent’s results for each factor. Once generated, factor scores can be used as variables in subsequent analyses such as multiple regression analysis.

4.3.1.7 Reliability and validity.

Reliability statistics can be calculated for each scale made up of the items in each factor (Coakes, 2013; DeVellis, 2017; Hair et al., 2010). The most common measure of scale reliability is Cronbach’s alpha, which is defined as “the proportion of a scale’s total variance

that is attributable to a common source, presumably the true score of a latent variable underlying the items” (DeVellis, 2017, p. 46). DeVellis (2017) explained that Cronbach’s alpha scores can generally be improved with a greater number of items and with items designed to precisely measure the underlying variable. Although the Cronbach’s alpha statistic is generally understood to be a weak measure of reliability, assessed alongside the more rigorous processes involved in factor analysis, the researcher can proceed with confidence that the scales measure the identified variables.

4.3.2 Multiple regression analysis.

Multiple regression analysis is a statistical technique used to analyse the relationship between a single dependent, or outcome variable and a combination of several independent, or predictor variables (Hair et al., 2010; Weisberg et al., 1996). The aim of multiple regression analysis is to calculate the degree to which independent variables in combination can predict a dependent variable (Snijders & Bosker, 1999). The variables included in the regression model are generally drawn from the theoretical framework and hypotheses framing the study and derived from the factors identified using factor analysis. The variables must be prepared so that their relationship can be computed mathematically. This requires nonmetric variables to be presented numerically. In social scientific, quantitative research, this generally is achieved using response scales. The variables used in multiple regression can be continuous, ordinal or categorical. When nonmetric variables are included in a regression model it is necessary to prepare them as dummy variables. According to Hair et al. (2010), dummy variables are “used to account for the effect that different levels of a nonmetric variable have in predicting the dependent variable” (p153).

Regression analysis ascribes a weight to each independent variable that denotes that variable’s contribution to predicting the dependent variable. Hair et al. (2010) explained that

“the weights denote the relative contribution of the independent variables to the overall prediction and facilitate interpretation as to the influence of each variable in making the prediction” (p. 157).

4.3.2.1 Multilevel regression analysis.

In many social science research contexts, data are nested at different levels: students in a class; residents in a local government area; players in a team, or employees in an organisation (Snijders & Bosker, 1999). In social scientific, non-experimental research it is important to account for the mutual impacts of individuals and their groups. When an analysis contains independent variables that describe phenomena at a group level, and dependent variables that operate at the individual level, it is necessary to account for the multilevel structure. This is to ensure that standard error estimations can be correctly computed. The statistical methods involved in multilevel analysis can account for and model the effect of the group (or class) to which the higher level data belong. Level two data are treated differently in the regression calculations so that variability between groups and variability within groups are accounted for (Snijders & Bosker, 1999).

4.3.2.2 Variance decomposition and the intraclass correlation coefficient.

Variance decomposition is designed to measure the ratio of the expected or known variance to the unexpected variance, or variance from unknown sources (Heck & Thomas, 2015). In multilevel data analysis it is necessary to examine variance that can be attributed to differences in the level two entity: the team or group in which individual level one data are nested. When level one data are nested in level two groups, variance decomposition is a basic form of multilevel modelling. It produces the intraclass correlation coefficient (ICC) which measures “the degree of resemblance between micro-units belonging to the same macro-unit”

(Snijders & Bosker, 1999, p. 16). The ICC statistic isolates and quantifies separate sources of variance in the data. In the case of a multilevel study, the result is assessed for significance at the team level, or level two. When a variable has a statistically significant ICC the researcher should investigate the reasons for intraclass or between group variance related to this variable (Snijders & Bosker, 1999). If a level two variable does not have a statistically significant ICC, there is insufficient variance between level two groups and the variable should be omitted from the regression analysis.

4.3.2.3 Control variables in multiple regression analysis.

It is not possible to build a regression model that accounts for 100% of variance in nonexperimental human research (Howell, 2014). There will always be exogenous factors present in the respondents or their environment which will likely affect the behaviour or nature of a dependent variable, and possible interact with independent variables. When these factors can be identified, or predicted to operate on the dependent variable, they should be controlled for in the regression model (Aneshensel, 2013). Characteristics of respondents such as sex, age, level of income or education may not be integral to a particular theoretical model. They should, however, be included as control variables if they can be predicted to have an effect on the dependent variable. In doing so, the researcher seeks to build a model which most closely represents the real world and from which valid generalisations can be made (Aneshensel, 2013).

4.3.2.4 Stages of regression analysis.

Hair et al. (2010) proposed a six-stage process for designing and implementing a multilevel regression analysis. The first stage is clarifying the objectives of the analysis (and therefore the appropriateness of regression as a method) and carefully identifying the

dependent, independent and control variables, as well as the levels at which the variables sit. The second stage in research design addresses issues of statistical power and sample size. At this stage, dummy variables may need to be created to account for non-metric data, and transformations may have to be applied to account for nonlinear (or curvilinear) relationships. The third stage includes testing the data for the necessary assumptions required for multiple regression analysis. These usually include that the error terms are normally distributed, that the variance around the regression line is similar for all values (homoscedacity), and that the error terms are independent. Next, a technique is developed which will determine the structure and order in which independent variables are introduced into the regression model. Hair et al. (2010) described two of the most common methods for doing this: confirmatory specification and sequential search methods. The confirmatory specification method uses an *a priori* theoretical model of the relationships between the independent and dependent variables to structure the regression model and decide on the order in which variables will be introduced. Sequential search methods use feedback from the regression model as it is being built to make decisions about the order and structure of the regression. Stepwise estimation, which is a type of sequential search method, first introduces the variables which are expected to have the greater predictive power, followed by variables in descending order of expected predictive power. If an introduced variable does not make a statistically significant contribution to the predictive power of the regression variate, it is eliminated and the regression repeated with the next variable introduced. Forward addition and backward elimination are also methods of sequential search and both use a trial-and-error method of analysis, where each variable is either added (in forward addition) or eliminated (in backward elimination) and the impact of the regression variate is examined. Many researchers adopt a sequential search method for the development of a regression model because decisions about

the structure of the model are based on the predictive power and the goodness of fit of each independent variable (Hair et al., 2010). The effect of each independent variable must be assessed in terms of the regression coefficient (the variable's predictive power), the standard error of the estimate, and the statistical significance of the coefficient, to determine if the variable remains in the regression analysis. Variables in the model are examined to assess their relative importance as predictors of the dependent variable and any collinearity is addressed. If necessary, variables may be eliminated and the analysis repeated. Generally, all statistically significant coefficients remain in the regression variate. The fifth stage of the analysis is interpretation of the regression variate to assess the degree to which it meets the objectives of the design (either predictive or explanatory). It is necessary at this stage to examine the relative contribution of each of the independent variables, as well as to assess the theoretical impact of any variables that were omitted from the final model due to lack of statistical significance or collinearity. An optional final stage, according to Hair et al. (2010), is for the model to be validated using a method such as split sample modelling, if the sample is sufficiently large. In split sample modelling, if the sample is sufficiently large, 50% of the responses are selected randomly and the regression variate is used to predict the dependent variable. Another empirical validation technique is to draw an entirely new sample from the population and assess the degree to which the regression variate predicts the dependent variable (Hair et al., 2010).

The order in which variables are added to the model can have an impact on the regression analysis. In the present study, a hierarchical technique will be used. A hierarchical technique uses a rationale for the order of variables, such as time order. In the present study, control and environmental variables will be introduced first, in order of proximity to the respondent (e.g., gender first, then religion, then qualifications, etc.), followed by theoretical

variables at level one. Finally, theoretical variables at level 2 will be introduced to the model.

4.3.2.5 Post-hoc tests.

It is sometimes necessary to conduct post-hoc tests after regression analysis to extract further information about the relationships described by the regression analysis. This is relevant when a regression has included dummy variables, as the regression analysis cannot quantify the effect of the different categories of the dummy variable on the dependent variable. In this case, a Scheffe test is conducted to make multiple comparisons between levels of a dummy variable to determine the statistical significance, if any, of each level in relationship to the dependent variable (Miller, 2002). Whilst the Scheffe test is widely used to compute the effect of dummy variables, its limitation is that it is overly conservative, giving rise to the possibility of Type 2 errors (Miller, 2002).

4.4 Qualitative Methods

Qualitative methods are those strategies employed by social scientists that seek to illustrate a social or psychological phenomenon in the context of the subjects themselves (Creswell, 2003). According to Klenke (2016) qualitative research “is a process of naturalistic inquiry that seeks in-depth understanding of social phenomena within their natural setting or context” (p.7). The methods used in qualitative research can capture a greater breadth of human experience and interpretation than is gathered by quantitative studies, due to the more open ended nature of the data gathering methods (Creswell, 2003; Rossman & Rallis, 2012). As has been noted earlier, statistical models cannot represent a complete picture of a phenomenon in reality. At best, they are an approximation of a phenomenon (Howell, 2008). Although statistical tests, such as correlation studies and regression analyses are most often accompanied by a measurement of their statistical power

or significance, the generalisability and reliability of statistical analyses have been subject of debate among social scientific researchers (e.g., Hunter, 1997). Research based on mixed methods is designed to build knowledge by providing data from multiple methods of enquiry, so that the combined power of the data enhances the robustness of the research outcomes (Creswell, 2003; Denzin, 2010; DePoy & Gitlin, 2016; Morgan, 2007; Teddlie & Tashakkori, 2003). Creswell and Poth (2018) described five main categories of qualitative research: narrative research; phenomenology; grounded theory; ethnography, and case study. Within each category, a variety of data collection tools may be employed, including observation, interviews, surveys, and the study of artefacts. In this section, a range of qualitative methods will be introduced briefly and their strengths and limitations discussed.

4.4.1 Narrative research.

Narrative research, also known as biographical story-telling, is a method of research which aims to collect and interpret stories and documents about subjects' experiences related to the matters being studied (Creswell & Poth, 2018; Ewens, 2017). Because of the depth and detail of data collected from individual subjects, researchers can gain insights about how reality is experienced by subjects from a close interpretation of their stories. Squire et al. (2014) explained that narrative research can draw on already existing narratives or can investigate narratives produced for the research project, such as when subjects are asked to compile a photo essay of their experience or tell their version of an event. In most cases, researchers are interested in narratives as resources for research that reveal something about the world or experience of the participants. From this resource, researchers can develop new knowledge about the phenomenon being studied by examining either the structure of the narrative (narratology), its content, or its context (Squire et al., 2014). The strength of narrative research is that the context it describes is a rich source of information with which to

interpret the meanings and significance of the elements of the narrative. The major limitation is that its meaning and significance is not generalisable or replicable.

4.4.2 Phenomenology.

In phenomenology the unit of analysis is not the human subject, but the phenomenon itself (Klenke, 2016). It is the study of phenomena as they are observed by the researcher, and an examination of the meaning, direction, or purpose of the phenomenon. As far as possible, phenomenological research is conducted without *a priori* assumptions about the phenomenon so that the researcher describes a phenomenon as it is, “allowing the essence of that experience to emerge” (Klenke, 2016, p.209). In this sense, the researcher’s impressions and descriptions of a phenomenon are necessarily subjective. Klenke (2016) cited the phenomenological philosopher, Heidegger, who said that no phenomenon can be observed and described without reference to the observer’s background, and the meaning to be drawn from a phenomenon is constructed from the observer’s background and experience. Giorgi (2014) argued that phenomenological enquiry was an approach to psychological research that provided a more holistic and nuanced understanding of human beings than naturalistic or mechanistic methods, which he saw as ‘reductionistic’. He further argued that psychology should break away from empiricism and embrace methods which respect the ‘irreal’ dimensions of human experience (Giorgi, 2014). This is the main criticism of phenomenology, that its research products are not falsifiable or replicable because each inquiry is unique. Further, there exists the risk that the researcher cannot adequately account for the effect that their own frame of perception has had an impact on the essence of the description/explanation of the phenomenon (McCabe & Holmes, 2009). The limitations of phenomenology include the lack of shared understanding about a phenomenon, even between researchers of the same phenomenon, and the limited application of the results of

phenomenology in developing theory.

4.4.3 Grounded theory.

Grounded theory is an inductive qualitative method whose purpose is explanatory theory about a process or an action (Charmaz, 2017). It is different from other methods of qualitative enquiry in that the researcher seeks to construct a theory out of the qualitative data via (usually) an iterative cycle of data collection and analysis (Creswell, 2003). The researcher conducts simultaneous data collection and analysis with the aim of discerning categories. These categories are then refined by comparative analysis until a theoretical understanding of the phenomenon emerges. The method leads the researcher to “define, explicate, and conceptualize” the data (Charmaz, 2017, p. 1) through multiple rounds of analysis across multiple methods of enquiry and investigation. Charmaz (2017) explained that the widely used qualitative tools of thematic coding and iterative categorical analysis were originally developed by grounded theorists. Corbin and Strauss (2015) developed the procedure for systematically developing categories through comparison of data, and the process of coding the data to map the emerging categories. Creswell and Poth (2018) described the process of data collection, analysis and further collection as zig-zagging between the research field and the office until each category is saturated, that is, until no new knowledge can be gathered about a category. Charmaz (2017) identified the strengths of grounded theory as: (a) building a theory from the specific to the general; and (b) researchers must evaluate their emerging theory at every step. Creswell and Poth (2018) identified some of the disadvantages of grounded theory as: (a) the need for researchers to set aside all existing theories; (b) knowing when sufficient data have been collected to develop a theory; and (c) some of the prescribed methods are potentially restrictive, in that they may impact upon the subject of the study, thus influencing the observations.

4.4.4 Ethnography.

Ethnography is the study of a culture through its people via the means of participant observation and interviews (formal and/or informal) in the context within which the people live (Hammersley & Atkinson, 2007). It is inductive, in that it does not require researchers to have a theoretical framework *a priori*, but rather an exploratory approach in response to a broad question. In this sense, the research design is generally unstructured. Hammersley and Atkinson (2007) described ethnography as usually small scale research in specific contexts (a family, a community, a village), and that the type of description that results tends to be localised and not intended for the purposes of generalisation. The objective is for a detailed and highly nuanced description of social phenomena or organisation. Miles, Huberman, and Saldaña (2014) listed the main features of ethnographic research as involving: (a) extended time immersed in the community being studied; (b) participation by the researcher in the social dynamics of the community; (c) extracting meaning from the interpretations people in the community have about their experiences; (d) detailed description of a community's culture and shared understanding. Hammersley (1992) identified disadvantages of ethnography as including finding a means by which to assess the validity of ethnography, and the challenge of making the ethnographic product relevant to an audience beyond those concerned with the specific community or culture being studied.

4.4.5 Case studies.

A case study is a more focused form of ethnography, which seeks not to describe an entire culture or community at a point in time, but to develop a detailed understanding of a specific case in order to extract themes (Creswell, 2003). Creswell and Poth (2018) identified the defining features of the case study method as: (a) focusing on a specific case to the subject of the study; (b) the case is defined within parameters, e.g., time frame, location,

people involved; (c) the case study is purposeful, either as an intrinsic case (a unique or unusual case), or as an instrumental case (which illustrates a known issue); (d) the case study yields in-depth understanding of the case; (e) the data will usually be organised into themes which are distilled during the analysis of the data so that conclusions may be drawn. Because case study research is philosophically similar to both grounded theory and ethnographic research, it shares the same caveats applied to those methods, namely, the generalisability of the research outcomes, the possibility of the researcher introducing their own bias or ideological frame into the enquiry, and the question of what to include and omit from the study (Creswell & Poth, 2018). Yin (2018) warned that it is challenging to account for the validity and reliability of case study research and that is especially true for a study which relies on a single case.

4.4.6 Qualitative surveys.

Jansen (2010) defined qualitative surveys as an enquiry within a sample of the population to determine the diversity of a phenomenon, or meaningful variation with the sample in relation to a phenomenon or phenomena for the exploration of meanings and experiences. According to Jansen (2010) the data collection method for qualitative surveys is not determined by the theoretical framework or research design and may include interview questions in a questionnaire, semi-structured interviews, observations, or a combination of methods. The aim is to arrive at a “compact multidimensional description of diversity/variance” (p. 7) in a sample of the population with a view to explaining the diversity in the context of the population. Ideally, to achieve this aim, the sampling method should achieve a ‘diversity sample’ which represents the existing diversity in the entire population based on known distributions (Onwuegbuzie & Collins, 2007).

4.5 Conclusion

In this chapter, methodologies appropriate for this study were identified, briefly described and evaluated. The main quantitative methods employed by social scientists, including statistical analyses of data using correlational and regression techniques, as well as qualitative techniques were briefly described.

5. ANALYSIS

5.1 Introduction

This chapter begins with the research methods. The sample is described and procedures are explained. The methods employed to develop the survey instrument and items are described.

Consistent with the social cognitive framework, a survey was developed to yield data using self-report psychological scales as the primary method for exploring the relationships between self-efficacy for teaching RE and other variables in the framework. The study was approved by the University of Wollongong Ethics Committee (see Appendix 1). Ethical approval was also a requirement of every Catholic diocese in Australia. Each diocese was approached using its prescribed research application process and approval granted in writing (see Appendix 2).

Quantitative techniques including exploratory factor analysis and multilevel regression modelling were used to test the hypotheses and address the research questions presented in chapter 3 and the results are discussed.

5.2 Methods

5.1.1 Sample selection.

Before undertaking this study, the size of the population of teachers teaching RE in Australian Catholic high schools was estimated. Information was sought from the peak body representing Catholic schools in Australia, the National Catholic Education Commission of Australia (NCEC). According to the NCEC, in 2015 there were 349 Catholic secondary schools (with students aged 12 – 18 years) and 137 combined primary and secondary schools (educating students aged 5 – 18 years). These 474 schools educated 360 790 students. This number had been growing steadily since the inauguration of the NCEC (when it began

tracking data nationally) in 1986 (National Catholic Education Commission, 2016). There were 28 071 secondary teachers working in Catholic schools in 2015.

The target sample size was 72 RE teaching teams randomly selected across Australian states and territories. Seventy-two teams of RE teachers represented approximately 15% of the total number of secondary school RE teaching teams in the country. This number also exceeds the standard threshold for group level or multilevel analysis. Maas and Hox (2005) asserted that, in multilevel analyses, such as multilevel regression or structural equation modelling, fewer than 30 groups would yield an unacceptably high margin of error, whilst 50 groups or greater is ideal. This threshold is also supported by Monte Carlo population simulations (Cappé, Guillin, Marin, & Robert, 2004). The target sample size for the individual level data was greater than 300 teachers. Based on the assumption that each high school RE team comprised at least five teachers, the total number of individual responses was expected to approach 350. Generally, in Catholic high schools around Australia, RE represents 12.5% of the total hours in the Year 7 to 10 curriculum. Years 7 to 10 are the compulsory years of secondary schooling in Australia. As such, it was conservatively estimated that 12.5% of teachers (approximately 3500) in Catholic high schools were involved in the regular delivery of the RE curriculum. A sample of between 250 and 300 RE teachers was considered acceptable.

5.2.2 Sample.

The distribution of Catholic schools across Australia is not uniform; some states have a significantly higher number of Catholic schools, Catholic school students, and Catholic school teachers than other states and territories. Consequently, it was decided that a stratified, random sample would be appropriate. By calculating the percentage of Australian Catholic schools with high school students in each state and territory, the same percentage was applied

to the target of 72 schools in total. The number of schools in each state was based on NCEC data (National Catholic Education Commission, 2013), as sampling was conducted in 2014 and these were the most recent data. (see Table 5.1).

Table 5.1

Distribution of Catholic High Schools by State or Territory in 2015

State or Territory	Catholic schools with high school students	% of total Catholic schools with high school students	Number of schools to be sampled
ACT	7	1.48	1
New South Wales	163	34.39	25
Northern Territory	10	2.11	2
Queensland	99	20.89	15
South Australia	33	6.96	5
Victoria	102	21.52	15
Western Australia	48	10.13	7
Total	474	100	72

Note: Some Catholic schools teach students from Kindergarten to Year 12.

Using a database of all Catholic schools with secondary students arranged by state and territory, the schools were assigned random numbers. The total numbers of schools to be sampled from each state and territory were selected from this random list from the top down. Schools were disqualified from selection if they had fewer than 250 students, as they likely would have had very small RE teams. Schools were also disqualified if they were remote, serving largely Aboriginal student populations, as these schools faced socio-economic and cultural circumstances that could potentially distort the responses of the participants. Schools

that were disqualified were replaced with the next school in the randomised sequence.

In Australia, each Catholic school RE curriculum is managed by the regional Catholic diocese, under the leadership of the Bishop. This governance system applies to both independent and systemic Catholic schools. Diocesan management of each systemic school is delegated to an organisation usually known as the Catholic Education Office (CEO).

Research approval and supervision of research is governed by different policies and procedures in each diocese. One diocese rejected the application to conduct research. Once written approval to conduct research had been received from each diocese, the sampled schools were invited to participate in the study via personal letters and emails to the school principals or school administration contact. It was often necessary to resend invitations as generally the number of responses was poor. After some months of following up on the invitations to the 72 schools, a further 36 schools were invited to replace the schools that either declined or did not respond. These were selected using the same procedures. Again, the response rate to these invitations was quite low. When permission was granted by a principal, the Religious Education Coordinator (REC) was given information about the study and instructions for encouraging RE teachers to complete the online survey. In total, 42 high school RE teams, comprising 309 RE teachers, participated in the quantitative phase of the research. The teachers were from 47 Catholic high schools in every state and territory of Australia, except the Northern Territory; 63.1% were female and 36.9% male. According to the NCEC, the proportion of females teaching in Catholic high schools in 2015 was 59%, slightly lower than the sample (National Catholic Education Commission, 2016, p. 21). Weldon (2015) noted that gender balance varies with subject areas in high school; male teachers are more likely to teach mathematics, science and technical subjects than they are to teach humanities. As Religious Education falls into the domain of the humanities, it seems

reasonable that there would be more females than males in the sample.

Two measures of school performance were included in the data: aggregate NAPLAN (National Assessment Program of Literacy and Numeracy) scores for students in Years 7 and 9 and the attendance rate (the percentage of students who attended school 90% or more of available school days). Controlling for school performance is necessary, as self-efficacy for teaching RE is related to teacher mastery. Mastery experiences would be more likely in a high performing school than in a low performing school. These measures were also chosen because this national, mandatory, publicly available, standardised Australian database of school performance data allow some degree of comparison across dioceses and jurisdictions. The aggregate NAPLAN statistic was computed by adding the mean NAPLAN examination results for Year 7 and Year 9 students in all domains for each school in 2015.

The Australian Curriculum and Assessment Authority (ACARA) Index of Community Socio-Educational Advantage (ICSEA) was used as a measure of each school's relative educational advantage. This score is calculated using family education, employment and economic data collected by the Commonwealth government (ACARA, 2013). The data are standardised with a mean of 1000 and a standard deviation of 100. The mean for the sample was 1031.82 with a standard deviation of 66, indicating that the schools generally were more educationally advantaged than the Australian average; ICSEA scores ranged from 782 to 1175. According to NCEC (2016), Catholic schools in Australia in 2014 received 83% of their funding from the Australian federal and state governments, while parents contributed the remainder (\$3.1 billion) through school fees. Public education in Australia is free. It is reasonable to suggest that Catholic schools are likely to have a higher average ICSEA because parents of students in Catholic schools are expected to contribute financially to their children's schools and are generally more likely to have the available income to meet this

expense.

The sample represented schools from a range of geographic locations. The distribution of geographic location is shown in Table 5.2 and approximately reflects the distribution of the Australian population. The Australian Bureau of Statistics reported that 67% of Australia's population lived in cities and metropolitan areas in 2017 (Australian Bureau of Statistics, 2017b) and the sample appears relatively representative in that 63.2% were drawn from metropolitan schools.

Table 5.2

Geographic Distribution of Sampled Schools

Location	Teachers	Percentage
Metropolitan	192	63.2
Regional	105	34.5
Remote	7	2.3
Missing	5	1.6

RE team sizes ranged from 4 to 30 teachers ($M = 17.45$). The frequency of team meetings ranged from one per term (10 school weeks) to more than five per term ($M = 2.57$, $SD = 1.28$). The RECs averaged 4.5 years of experience in their current schools, ranging from 0 years to 22 years. The length of time RECs had served in the role in their school was positively skewed (1.57) and 74.5% of RECs had worked in that role in their current school for five years or less.

The 309 teachers of RE had mean teaching experience of 12.18 years ($SD = 11.51$). The maximum was 50 years. The distribution of years of experience was not normally distributed and positively skewed (Skewness = 1.05, $SE = 0.14$), indicating that there were

more relatively inexperienced teachers than experienced teachers in the sample. The RE teachers had worked in their current schools from 0 to 31 years ($M = 6.51$) with the distribution being positively skewed (1.82).

To achieve diocesan accreditation to teach RE, each diocese in Australia requires teachers to be both baptised Catholic and have tertiary qualifications. In NSW Catholic schools, for example, the 2010 policy stated “Teachers of Religious Education must be qualified Catholic teachers, with the necessary background, knowledge and professional commitment to the Vision and Mission of the Catholic School” (Conference of Diocesan Directors of Education - NSW and ACT, 2010, p. 7). Table 5.3 represents the distribution of qualifications to teach RE in the sample. Although 71.8% of the sample had some form of tertiary level qualification to teach RE in a Catholic school, the remaining 28.2% of the sample reported no formal qualifications. The magnitude of this figure is significant in that a lack of qualifications to teach a subject will likely affect the teacher’s mastery and therefore self-efficacy beliefs about teaching that subject. It is also apparent that RE teachers without tertiary qualifications were working in contravention of the diocesan policies that regulated their practice. Further, the survey data indicated that 8.4% of the sampled teachers ($n = 26$) were not baptised Catholic, and yet were engaged in teaching RE. The number of non-Catholic teachers in the sample is of interest, as all dioceses in Australia required RE teachers to be baptised Catholics. The high proportion of untrained RE teachers may relate to the availability of suitably qualified RE teachers, issues of resourcing and scheduling RE classes, or to a more general lack of trained and baptised Catholic RE teachers in the employment market. These data suggest that there was a large group of RE teachers in Australian Catholic High Schools who were teaching RE in contravention of diocesan policy and without sufficient training or personal formation in the Catholic faith. In this context, personal

formation is the process of personal and religious development, which focuses on spiritual practices and a deepening commitment to the Catholic religion (Graham, 2011).

Table 5.3

Distribution of RE Qualifications in the Sample

Qualification	Number of Teachers	Percentage
No qualification	87	28.2
Certificate of Religious Education or Religious Studies	81	26.2
Graduate Diploma in RE or Theology	43	13.9
Bachelors Degree Minor in RE or Theology	21	6.8
Bachelors Degree Major in RE or Theology	28	9.1
Masters Degree in RE or Theology	48	15.5
	309	100

5.2.3 Instrument design.

The survey form developed for data collection was an online version designed and administered using Survey Monkey (www.surveymonkey.com). The form was in five parts: demographic information, self-efficacy for teaching RE, collective efficacy of the RE team, implicit theories about ability in RE and faith, and intrinsic spirituality.

The first section of the survey form, described in detail below, contained an explanation of participants' informed consent, and requested demographic information. Because the application of self-efficacy to the domain of RE teaching is new, the scales were developed by the researcher, informed by other studies (Bandura, 1997; Block, Hutzler, Barak, & Klavina, 2013; Pajares & Urdan, 2006). A set of items was developed for collective efficacy of the RE team, after considering collective efficacy theory and scales applied in other domains (Bandura, 2000; Barnett & McCormick, 2012; Goddard, 2002) and Bandura's

guide for developing self-efficacy scales (Bandura, 2006). Implicit Theory of Student Faith and Ability was measured using items adapted from the Implicit Theories of Intelligence Scale (Hong et al., 1999). Intrinsic spirituality was measured using a modified version of the Intrinsic Spirituality Scale (Hodge, 2003). The process of scale development, scale piloting and scale validation is treated later in this chapter.

The sections that follow describe the process by which each aspect of the survey was designed and the items developed.

5.2.4 Instrument development.

Based on the understanding that survey methods allow the researcher to design the type and scope of response collected *a priori*, it is well suited to this measurement of self-efficacy for teaching RE and other constructs in the theoretical framework. Because the sample comprised Australian professional teachers, it was not necessary to make allowances for levels of literacy or for speakers of languages other than English. In order to respect respondents' freedom to withdraw from the study at any stage, none of the items in the survey was mandatory; respondents were free to leave any or all items blank.

5.2.4.1 Expert feedback.

Ten expert teachers of RE and three RECs reviewed the draft survey instrument. They were given a draft with the four sections: self-efficacy for teaching RE, collective efficacy of the RE team, implicit theories about faith and ability in RE and intrinsic spirituality. Refinements of the items were discussed and, when there was broad consensus, modifications were made in line with the suggestions. Some complex draft items were simplified and some items were eliminated due to being irrelevant or potentially confounding. The group offered broad affirmation that the survey items reflected the duties and responsibilities of RE

teachers.

5.2.4.2 Demographic items.

The questions in the demographic section of the form were designed to gather information about respondents' gender, years of RE experience, years of experience in the present RE team, accreditation to teach RE, whether they were Catholic or not, and their tertiary qualifications related to RE or Catholic theology.

A separate survey form was developed for RECs. This collected the names of the schools, suburb in which each school was located, the dioceses in which the schools operated, geographic categories (metropolitan, regional, rural), years of experience of RECs, number of teachers in the RE teams, and the number of times per school term (approximately ten school weeks) that each team met.

5.2.4.3 Development of self-efficacy for teaching RE items.

The measurement of self-efficacy as it relates to schools, learning, and teachers has been the subject of study for some decades (Armor et al., 1976; Bandura, 1997; Caprara et al., 2006; Erdem & Demirel, 2007; Hoy & Woolfolk, 1993; Linnenbrink & Pintrich, 2003; Schunk, 1991; Tschannen-Moran et al., 1998), with clear distinctions being drawn between teacher efficacy or generalised teacher self-efficacy (Tschannen-Moran et al., 1998), and domain specific teacher self-efficacy (Bandura, 1997). For the purposes of this study, it was determined that RE teaching, and the sub-categories or factors that could emerge, would best be measured by a domain specific model based on a theoretical understanding of self-efficacy as a person's belief in his or her capability to perform certain goal directed behaviours (Bandura, 1997).

Bandura (2006) provided a guide for the development of self-efficacy scales. He

recommended that scales be developed for the particular domain of functioning, whilst being mindful of the possibility that there may be some transfer and generalisation of sub-domain skills. This requires the items in the scale to be as precise as possible. In essence, the items of a self-efficacy scale must accurately represent the relevant skills and behaviours, in this case teaching high school students religious education. Bandura (2006) reminded researchers to ensure that items are developed with a view to distinguishing between efficacy and expectancy. The scale should measure the extent to which respondents believe they “can do” a behaviour, rather than whether they “will do” the behaviour. In the context of teaching, the behaviours described by the items should not be misconstrued as outcomes of behaviours (e.g., improved student learning outcomes). Further, items should allow for variation in responses.

A questionnaire was designed to measure RE teacher self-efficacy, following the theory and process provided by Bandura (2006). An analysis was conducted of the RE curriculum documents directing the work of RE teachers in each Catholic diocese in Australia. A mapping exercise identified RE requirements common to all dioceses in Australia. Probably because the Catholic Church is highly centralised, there was very good alignment among the dioceses. The documents employed by the CEO of the Diocese of Melbourne were used as a template for the majority of RE curricula around Australia. The document, entitled *Coming to Know, Worship and Love – A Religious Education Framework for Catholic Schools in the Archdiocese of Melbourne* (2005) was developed in close cooperation with the Catholic Archdiocese of Sydney. These two dioceses were responsible for the majority of the Catholic high schools in Australia. The curriculum framework eventually became the foundation for a series of textbooks and teaching programs, which are now employed in most Catholic dioceses around Australia. In a similar way to other

documents relating to Catholic education in Australia, *The RE Framework for Catholic Schools in the Archdiocese of Melbourne* emphasised that education in the Catholic faith is the reason for the existence of Catholic schools and that there are distinct aspects of that mission to be carried out in the RE classroom by RE teachers (Catholic Education Office Melbourne, 2005). Therefore, *The RE Framework for Catholic Schools in the Archdiocese of Melbourne* was chosen as the document to inform the development of the items in the scale because of its importance to the daily work of RE teachers and the familiarity that RE teachers likely have with its goals and content. Further, the document was informed by the pedagogical principles drawn from the Victorian Essential Learning Standards (Victorian Curriculum and Assessment Authority, 2007). The standards applied to the RE framework concern religious knowledge and understanding, reasoning and responding, and personal and communal engagement. *The RE Framework for Catholic Schools in the Archdiocese of Melbourne* lists four goals for students of RE in Catholic schools:

- making sense of everyday life experiences in the broader contexts of mystery, complexity, confusion and awe;
- gaining access to and understanding the Scriptures, the traditions of the Catholic community, its stories, its experiences and its teachings;
- celebrating with others the mystery and life of the Risen Christ;
- responding to the activity of God in their lives and in the whole of creation.

(Catholic Education Office Melbourne, 2005, p. 5)

The four goals informed the construction of self-efficacy for teaching RE items, but were not used in their original form as, according to Bandura (2006), items in self-efficacy scales are both task and domain specific. The goals in *The RE Framework for Catholic Schools in the Archdiocese of Melbourne* (Catholic Education Office Melbourne, 2005)

generally are broad in nature and aspirational in tone so they were divided into separate items and reframed using operational language. For example, “gaining access to and understanding the Scriptures” was reframed as “teach students how to access the Scriptures confidently”, “teach students to recall important Scripture passages” and “teach students that the Scriptures are the revelation of God”.

Self-efficacy for teaching RE items addressed teachers’ self-efficacy for teaching each of the four areas identified. The Melbourne RE curriculum framework also reinforces the importance of RE being taught using quality and contemporary pedagogy. Rather than giving operational instructions for teacher practice, the document lists the principles on which quality RE pedagogy should be based:

- learning for all;
- catering for different learning styles and abilities;
- individualised and personalised learning;
- process and content are equally important;
- integration of learning, teaching and assessment;
- learning that transfers to life.

(Catholic Education Office Melbourne, 2005, p. 3)

Finally, the RE framework addresses assessment and feedback to be used to measure student learning.

5.2.4.4 Aspects within the self-efficacy for teaching RE items.

Three types of activities and duties related to the teaching of RE were identified from a review of the curriculum documents and the National Religious Education Accreditation Policy (National Catholic Education Commission, 2009) This policy is particularly relevant

to measurement of self-efficacy for teaching RE, as the policy states that teachers of RE should have “a developed sense of confidence in [the curriculum’s] delivery” (para. 3). The three aspects that were proposed were: (a) teaching the Catholic tradition; (b) Catholic catechesis; and (c) personal witness.

It was proposed that self-efficacy for teaching the Catholic tradition related to a teacher’s belief in his or her capability to teach the history, beliefs, sacred texts and ethics of the Catholic religion. The item “I can teach my students the doctrines contained in the *Catechism of the Catholic Church*” was designed to measure this dimension. Self-efficacy for Catholic catechesis related to the mission of Catholic RE teachers to nurture and increase the Catholic faith of their students. This would be measured by responding to items such as “I can show my students how to recognise the activity of God in their lives”. Self-efficacy for personal witness was proposed as an aspect which was concerned with teachers’ beliefs in their capability to communicate their faith experience to their students in explicit and implicit ways. Items such as “I can help my students to grow in their faith, using my faith as an example” were constructed for this purpose. The analysis and construction of items resulted in thirty self-efficacy for teaching RE items (Table 5.4). The order of the items was established so that the content of each item was sufficiently different from contiguous items, to limit structural bias.

Table 5.4

Self-efficacy for teaching RE items

In my Religious Education class, I can...

help students to make sense of everyday life experience through the Catholic faith

encourage students to appreciate mystery and awe in their everyday life experience

In my Religious Education class, I can...

teach students that the Catholic Scriptures are the revelation of God

help students make connections between biblical teachings and their own lives

teach students to value the Catholic tradition

bring students to a deeper personal relationship with Christ

celebrate the life of the risen Christ with my students

develop a love of liturgy in my students

develop a love of the Eucharist in my students

teach students to value the Sacraments as a source of God's grace

show students that I am a witness to the risen Christ

share my personal relationship with Christ with my students

help students to develop solidarity with people suffering injustice

encourage students to act for charity

encourage students to act for justice

show students how to look beyond the human view of the world to a transcendent view

teach students the doctrines contained in the Catechism of the Catholic Church

teach students how to recognise the activity of God in their lives

teach students how to access the Scriptures confidently

teach students to recall important Scripture passages

teach students to pray

engage students in RE, regardless of their faith background

teach students about the central doctrines of the Catholic faith

teach students about the central dogmas of the Catholic faith

In my Religious Education class, I can...

help students respect diverse views and opinions about matters of religion

show students how to relate the Catholic message to their own lives

teach students to appreciate the sacred power of the Sacraments

help students to grow in their faith, using my faith as an example

help students respect diverse views and opinions about matters of faith

5.2.4.5 Collective efficacy for teaching RE items.

In this study, collective efficacy, the shared belief of members of a team that the team can coordinate and cooperate to achieve a common goal (Bandura, 2000), is applied to the work of RE teachers. The collective efficacy items relate specifically to the work of the RE team in the school. These responsibilities and functions were compiled with reference to the duty statements of RECs in a number of Catholic dioceses in Australia. These documents were a useful source of items about collective efficacy of the RE team, because they provided a valid and fruitful starting point for items related to the work of the team itself. The CEO of the Diocese of Sydney provided a draft role description for the REC online which adequately reflected the work of the team, with a focus on “co-operative planning, the sharing of ideas and decision-making” in order to provide “effective and contemporary pedagogy in Religious Education, including the effective use of assessment and evaluation data” (Catholic Education Office Sydney, 2011). Further, the REC must direct the team to “be active participants and leaders in the planning and implementation of the liturgical and sacramental life of the school”.

The collective efficacy for teaching RE section of the survey used in this study is an adaptation of the scale developed by Barnett and McCormick (2012) to measure the

collective efficacy beliefs of educational senior leadership teams. It uses an 11-point response scale which asks participants to rate their level of confidence that the RE team can achieve domain-specific, team oriented goals. The same principles that determined the structure of the 11-point scale for the self-efficacy items were applied to these collective efficacy items.

5.2.4.6 Aspects within the collective efficacy for teaching RE items.

A questionnaire was developed to measure RE teachers' perceptions of the collective efficacy of their RE team using the theory and processes provided by Bandura (2000, 2006). Items were designed based on the activities, purpose and shared work of the RE team. The three aspects for the activities and duties of an RE team were drawn from both the active role description of RECs (described above) and the generic role description of a coordinator (or head teacher) of a subject faculty. The components encompassed both specifically religious aspects of the team's mission and the operational functions required for teachers to be supported in their work. The first proposed aspect was the team's work in administering and delivering the RE curriculum. A Vatican document instructing bishops around the world regarding the principles of religious education stated that "religious education in schools gives the pupils knowledge about Christianity's identity and Christian life" (Congregation for Catholic Education, 2009, para. 17). This aspect related to the capability of the team to fulfil the curriculum requirements prescribed by the local diocese. The second proposed aspect related to the team's ability to effect catechesis (or a passing on of the faith). The Congregation for Catholic Education (2009) directed bishops to ensure that religious education's "cultural condition is a vision of the human person being open to the transcendent" (2009, para. 18). Respondents were asked to rate their confidence that their RE team had the capability to form students in the Catholic faith through various activities and faith-based learning experiences. The third aspect was concerned with how the teachers in an

RE team are trained and developed for their work. For the team to have a strong belief in their collective capability to achieve the aims of RE, their collective training and development likely may affect their mastery, vicarious mastery and interpersonal persuasion as it relates to the work of RE.

The self-efficacy for teaching RE and collective efficacy for teaching RE items in the survey used an 11-point response scale. The survey asked respondents to rate their belief in their capability for each item on a scale from 0% to 100% with points at each 10% mark. This was informed by Bandura's model for scale development for self-efficacy (Pajares & Urdan, 2006). Bandura wrote that "an efficacy scale with the 0-100 response format is a stronger predictor of performance than one with a 5-interval scale" because respondents would likely discriminate more accurately in their answers with a wider range of choices to describe the strength of their belief.

The analysis of role descriptions and other documents related to the work of the RE team resulted in twenty-seven items measuring collective efficacy (Table 5.5). The order of the items was established so that the content of each item was sufficiently different from the items preceding and following it to avoid structural bias (see actual instrument in Appendix 4).

Table 5.5

Collective efficacy for teaching RE items

The RE Team in which I work can...

develop quality teaching and learning programs for RE

develop quality resources for the RE programs

design learning experiences for RE that are relevant to students

The RE Team in which I work can...

design learning experiences for RE that are rigorous

design learning experiences for RE that nurture students' faith

provide opportunities for meaningful prayer

provide opportunities for students to develop a love of liturgy

collaborate on planning for RE

articulate the Catholic vision of the school

mutually support the team to nurture the spirituality of RE teachers

act for social justice

implement quality assessment in RE

develop a strategic vision for RE in the school

motivate RE teachers

support teachers new to RE teaching

use data to improve student learning in RE

promote RE as a high-quality subject

inspire students to participate in RE activities

conduct high-quality retreat programs for students

celebrate the Catholic tradition

respond to charitable appeals

cooperate on the continuous improvement of RE programs

manage student records in RE

report learning achievement in RE to parents

create a culture of high expectations in RE

The RE Team in which I work can...

encourage the team in their work as RE teachers

cooperate on innovative approaches to teaching RE

5.2.4.7 Implicit theories of faith and ability in RE items.

Dweck et al. (1995) argued for a model of motivation that identified the schemas individuals have about the nature of intelligence as either fixed or malleable (able to be changed incrementally). Further, Dweck (2016) expanded the notion of implicit theories to include domains beyond intelligence, such as sporting ability, managerial skill, or communication and relationships. These implicit theories may be applied to oneself or to others. In the conceptual framework for this study, implicit theories about faith and ability in RE are posited to relate to teachers' self-efficacy for teaching RE. Cook, Castillo, Gas, and Artino (2017) tested the reliability of the scale, as designed by Dweck et al. (1995) and calculated a Cronbach's Alpha score greater than .75 ($p < .0001$). The six item scale (Dweck et al., 1995) was adapted to relate to two dimensions of teaching RE: beliefs about students' faith and beliefs about students' ability to learn in RE, using syntax similar to the original scale (Table 6).

Table 5.6

RE Teachers' implicit theories of students' faith and ability in RE items

Students have a certain amount of ability in RE and you really can't do much to change it

Ability in RE is something about students that you can't change very much

Students can learn new things in RE, but you can't really change their basic ability in RE

Students have a certain amount of faith, and you really can't do much to change it

Faith is something about students that you can't change very much

Students can have faith experiences, but we can't really change their basic faith

5.2.4.8 Intrinsic spirituality scale.

The conceptual framework for this study posits that the intrinsic spirituality of RE teachers will likely be associated with their self-efficacy for teaching RE. Hodge (2003) built upon the earlier work of Allport and Ross (1967) and Hill and Pargament (2003) by developing a conceptual framework for the analysis of intrinsic spirituality. This scale seeks to measure the “degree to which individuals find their ultimate purpose for life in their spirituality” (2003, p. 55). The scale developed by Hodge (2003) contained six items using an alternative stem completion method, with items such as “My spirituality answers ...” either “... all of my questions about life” or “... none of my questions about life”, with a 7-point scale (Table 7). The original, published instrument had a 10-point scale. However, to be consistent with the other scales and to improve usability and readability on the computer screen, the scale was reduced to 7-points.

Table 5.7
Intrinsic Spirituality Scale (Hodge 2003)

In terms of questions I have about my life, my spirituality answers ...	no questions 0	1	2	3	4	5	absolutely all my questions 6
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Growing spiritually is ...	more important than anything else in my life	6	5	4	3	2	1	of no importance to me 0
Spirituality is ...	the master motive of my life, directing every other aspect of my life	6	5	4	3	2	1	not part of my life 0
When I am faced with an important decision, my spirituality ...	plays absolutely no role	0	1	2	3	4	5	is always the overriding consideration 6
When I think of things that help me to grow and mature as a person, my spirituality ...	has no effect on my personal growth	0	1	2	3	4	5	is absolutely the most important factor in my personal growth 6
My spiritual beliefs affect ...	absolutely every aspect of my life	6	5	4	3	2	1	no aspects of my life 0

5.2.5 Open response item

An open ended question was provided to allow participants to make an optional statement in response to the question “Is there anything else you would like to add about your experience of being a Religious Education teacher?”.

5.3 Statistical Analysis

5.3.1 Responses.

5.3.1.1 Responses to the self-efficacy for teaching RE items.

Three-hundred-and-nine participants completed some or all of the self-efficacy for teaching RE items. Twenty five participants chose not to respond to any of the self-efficacy for teaching RE items, although they had already completed the demographic items.

Although there was a high number of null responses to these items, the same participants chose not to answer all of the items in each section of the questionnaire. The total number of completed questionnaires came close to the adequate sample size of 250 to 300, which allowed the statistical analysis of the data to proceed without concern for its validity.

One reason for the number of null responses may have been that teachers were asked to complete the instrument by their direct supervisor (the REC) and may have entered the initial responses as an act of compliance. Some teachers may have felt vulnerable responding to items that dealt with personal and spiritual aspects of their work in Catholic schools, despite assurances of privacy and data security.

Mean scores for the items related to self-efficacy for teaching RE ranged from 88.97 % ($SD = 13.18$) for “I can encourage students to act for justice” to 62.66% ($SD = 23.40$) for “I can develop a love of the Eucharist in my students” (See Appendix 6 for response distribution Table). The items with the six highest mean scores were all related to secular (non-religious) or humanist aspects of teaching RE, such as teaching students about social justice, human dignity, ethics and respect for diversity. The five items that had the lowest mean scores dealt with teaching the mystical or numinous themes of Catholic RE, such as inspiring in students a love of liturgy, and teaching an appreciation of the sacred power of

rituals and developing a personal relationship with Jesus Christ. For these items, the standard deviations were relatively larger than for the items with the highest self-efficacy scores, suggesting that there was a greater spread of responses for the self-efficacy of RE teachers in these areas. The item for which teachers generally reported having strongest self-efficacy (SE 15 “I can encourage students to act for justice”) also had the lowest standard deviation ($SD = 13.18$) indicating that there was less variability in the way teachers reported self-efficacy for these items. The greatest spread of responses was for the item “I can teach students the doctrines contained in the Catechism of the Catholic Church” ($M = 70.28$, $SD = 24.77$), followed by “I can share my personal relationship with Christ with my students” ($M = 79.33$, $SD = 23.79$).

The frequency distribution of responses to the self-efficacy for teaching RE items (Appendix 6) indicated that there were tasks and practices for which RE teachers reported lower self-efficacy for teaching RE. The distribution suggested that RE teachers, when asked to judge their capability to perform those tasks and practices which engage students in lessons about the transcendent and mystical doctrines of the Catholic religion, and to have their students celebrate “...with others the mystery and life of the Risen Christ” (Catholic Education Office Melbourne, 2005, p. 5), were less likely to report high levels of self-efficacy for teaching RE.

5.3.1.2 Responses to the collective efficacy for teaching RE items.

Of the 309 participants who began the questionnaire, 40 did not complete any of the items in the collective efficacy for teaching RE section. This is significantly higher than the null response rate for the self-efficacy for teaching RE items ($n = 27$) and may be the result of respondents leaving the survey before responding to all items. The same 40 respondents did not complete the sections on Implicit Theories and Intrinsic Spirituality. As mentioned

previously, as they were the same participants who failed to complete each section, the analysis continued without concern for its validity.

The mean scores of the collective efficacy for teaching RE items ranged from 87.57% ($SD = 15.48$) for “My RE Team can teach students to act for justice”, to 71.97% ($SD = 22.20$) for “My RE Team can provide opportunities for students to develop a love of liturgy” (See Appendix 6 for response distribution Table). It is interesting, though not surprising, to note the strong alignment between the responses to these items and those related to self-efficacy for teaching RE. Respondents indicated that both as individuals and as a team they had lower confidence in their capabilities to teach the numinous or transcendental aspects of RE. The second strongest response was for “My RE Team can respond to charitable appeals” ($M = 87.16$, $SD = 17.01$). The item with the greatest spread of responses was “My RE Team can provide high-quality retreat programs for students” ($M = 79.40$, $SD = 22.13$). The variation in responses to this item is understandable because from school to school, and from diocese to diocese, the expectation that RE Teams conduct religious retreats for students likely varies. In some schools, RE teachers are wholly responsible for organising and running religious retreat programs. In other contexts, schools engage external facilitators to provide this service. This may also apply to other functions, such as organising and delivering liturgical services. In some schools, there may have been a team, separate from the RE teachers, which undertook this work. In such contexts, RE teachers may have no responsibility for any duties apart from delivering the formal RE curriculum, and this may be reflected in their self-efficacy rating related to these duties and in their collective efficacy beliefs about their team in these areas.

5.3.1.3 Responses to implicit theories about faith and ability in RE items.

The response rate for these items was similar to the rate for the collective efficacy of the RE team items, with the same null response rate. Responses to each of the six items were

arranged along a seven-point a scale, ranging from Strongly Disagree (0) to Strongly Agree (6). The mean response for each item was negatively skewed, with the mean skewness for all six items being -1.06, suggesting that, generally, the RE teachers in the sample held more of a growth theory about students' faith and ability in RE (See Appendix 6 for response distribution Table). The item with the highest mean score was "Ability in RE is something about students that you can't change very much" ($M = 5.10$, $SD = 1.11$). The item with the lowest mean score was "Students can have faith experiences, but we can't really change their basic faith" ($M = 4.41$, $SD = 1.30$). This item also had the greatest spread of responses.

5.3.1.4 Responses to the intrinsic spirituality scale.

The null response rate was slightly higher for the last section of the survey ($n = 51$), perhaps due to a combination of attrition and the deeply personal subject matter of the intrinsic spirituality items. As mentioned earlier, these respondents were mostly the same respondents who chose not to answer the earlier self-efficacy and implicit theory items, meaning that the absence of data for this set of items did not compromise the remaining data. The items were arranged along a seven-point scale (0-6) with the higher values denoting stronger intrinsic spirituality. The responses to each item were negatively skewed, with the mean skewness value of -0.81 (See Appendix 6 for response distribution Table). The item with the lowest mean response and highest spread was "In terms of questions I have about my life my spirituality answers (either) absolutely all my questions" through to "no questions" ($M = 3.83$, $SD = 1.31$). The average of the means for all items was 0.47, which suggests some homogeneity of spirituality among Catholic RE teachers, which is to be expected, as the majority of teachers were Catholic and teachers of RE are exposed to a similar Catholic culture and training through their work in Catholic schools.

5.3.2 Principal component analysis.

Principal Component Analysis (PCA) is a mathematical procedure that seeks to condense the information contained in multiple variables in terms of their common underlying components (Hair et al., 2010). PCA was applied to items related to self-efficacy for teaching RE, collective efficacy for teaching RE, implicit theories of faith and ability in RE and intrinsic spirituality. Component analysis was carried out using SPSS Version 25. Component extraction criteria were Eigenvalues greater than one, scree test and, most importantly, interpretation. Oblimin rotation was used to facilitate interpretation of the different factors when multiple factors were extracted. In this study, item loadings of .30 and above were accepted for interpretation.

5.3.2.1 Principal component analysis of self-efficacy for teaching RE items.

Although data such as these may often be subjected to confirmatory factor analysis to validate theoretical variables, the sample size in this study made such an approach impractical. The initial PCA yielded an intermediate solution of four components with eigenvalues 18.08, 2.23, 1.62, 1.04. The four components accounted for 56.93%, 7.43%, 5.40% and 3.45% variance respectively. An examination of the scree plot (Figure 1) suggested a possible four factor solution. A pattern matrix (Table 8) was generated which produced the coefficients for the linear combination of the variables.

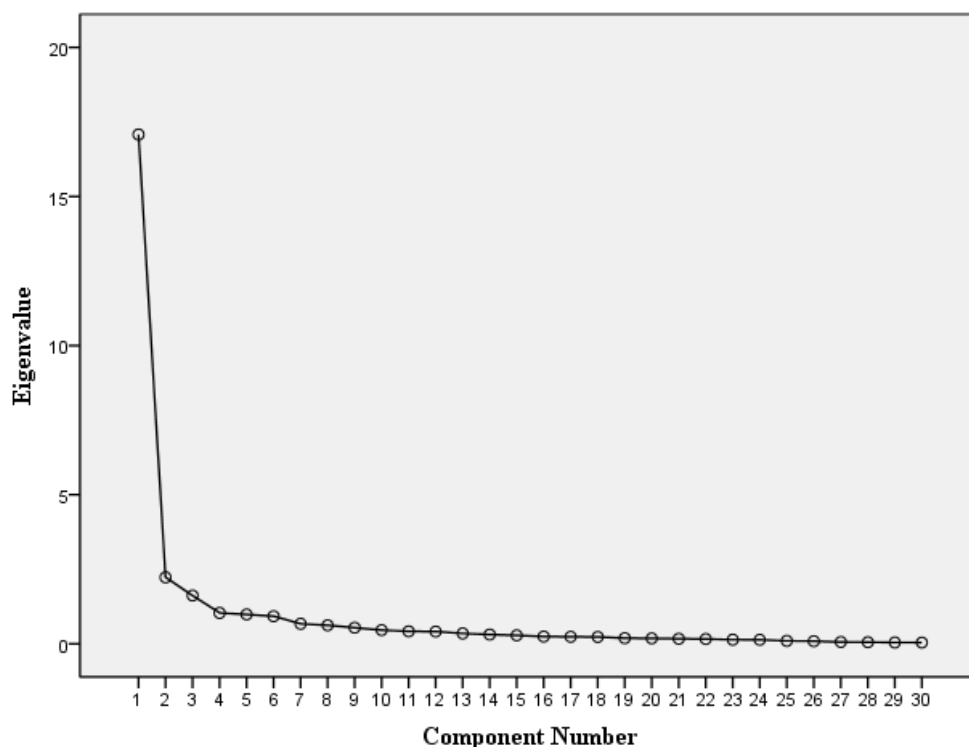


Figure 5. PCA scree plot for self-efficacy for teaching RE.

Table 5.8

Self-efficacy for teaching RE –Pattern Matrix Intermediate Solution 1

	Component			
	1	2	3	4
SE9 - develop a love of the Eucharist in my students;	.96	-.05	-.02	.05
SE6 - bring students to a deeper personal relationship with Christ;	.89	.12	.11	.01
SE8 - develop a love of liturgy in my students;	.86	.04	-.04	.02
SE10 - teach students to value the Sacraments as a source of God's grace;	.84	.06	-.07	.04
SE7 - celebrate the life of the risen Christ with my students;	.82	-.03	-.12	-.01
SE28 - teach students to appreciate the sacred power of the Sacraments;	.67	.03	-.17	-.11
SE22 - teach students to pray;	.62	.18	.09	-.21
SE29 - help students to grow in their faith, using my faith as an example;	.57	.00	.05	-.53
SE5 - teach students to value the Catholic tradition;	.51	.13	-.40	.15
SE19 - teach students how to respond to the activity of God in their lives;	.41	.01	-.40	-.23
SE15 - encourage students to act for justice;	.07	.96	.01	.11
SE14 - encourage students to act for charity;	.09	.94	.01	.10
SE13 - help students to develop solidarity with people suffering injustice;	-.02	.93	-.04	.09
SE26 - help students respect diverse views and opinions about matters of religion;	-.10	.58	-.10	-.39

SE30 - help students respect diverse views and opinions about matters of faith;	.07	.55	.01	-.37
SE23 - engage students in RE, regardless of their faith background;	.08	.37	-.24	-.33
SE24 - teach students about the central doctrines of the Catholic faith;	-.05	.07	-.96	.09
SE25 - teach students about the central dogmas of the Catholic faith;	.00	.04	-.96	.14
SE17 - teach students the doctrines contained in the Catechism of the Catholic Church;	-.02	.05	-.84	.00
SE3 - teach students that the Catholic Scriptures are the revelation of God;	.08	-.06	-.76	-.12
SE1 - help students to make sense of everyday life experience through the Catholic faith;	.30	-.08	-.63	-.02
SE20 - teach students how to access the Scriptures confidently;	-.06	.12	-.61	-.28
SE4 - help students make connections between biblical teachings and their own lives;	-.02	.16	-.54	-.31
SE2 - encourage students to appreciate mystery and awe in their everyday life experience;	.35	.02	-.51	.06
SE16 - show students how to look beyond the human view of the world to a transcendent view;	.14	.22	-.47	-.16
SE18 - teach students how to recognise the activity of God in their lives;	.33	.06	-.44	-.25
SE21 - teach students to recall important Scripture passages;	.15	.08	-.40	-.27
SE12 - share my personal relationship with Christ with my students;	.15	.05	-.23	-.59
SE11 - show students that I am a witness to the risen Christ;	.28	.02	-.24	-.51
SE27 - show students how to relate the Catholic message to their own lives.	.19	.25	-.33	-.34

Note: Components were identified using values $> |0.30|$

The four components in the initial solution were named *self-efficacy for teaching immanence*, *self-efficacy for teaching praxis*, *self-efficacy for teaching Catholic doctrine*, and *self-efficacy for teaching Catholic identity*. SE16 “I can show students how to look beyond the human view of the world to a transcendent view” and SE18 “I can teach students how to recognise the activity of God in their lives” were initially included in the third intermediate component self-efficacy for teaching Catholic doctrine. These items were significantly different from the others in this component and did not share the thematic commonality of the other items. It is possible that some respondents conceived these items to be the application of Catholic doctrine related to the mystical aspects of Catholicism, rather than measuring their own belief in their capability to teach students about mysticism and immanence. Item 18 also cross-loaded on self-efficacy for teaching immanence. Items 16 and 18 were identified as

problematic items and were eliminated and the PCA was repeated. The scree plot (Figure 5.6) suggested a four-component solution with eigenvalues of 15.74, 2.21, 1.6, and 1.03, accounting for 56.22%, 7.92%, 5.72%, and 3.68% of variance respectively. Table 5.9 shows the component pattern matrix.

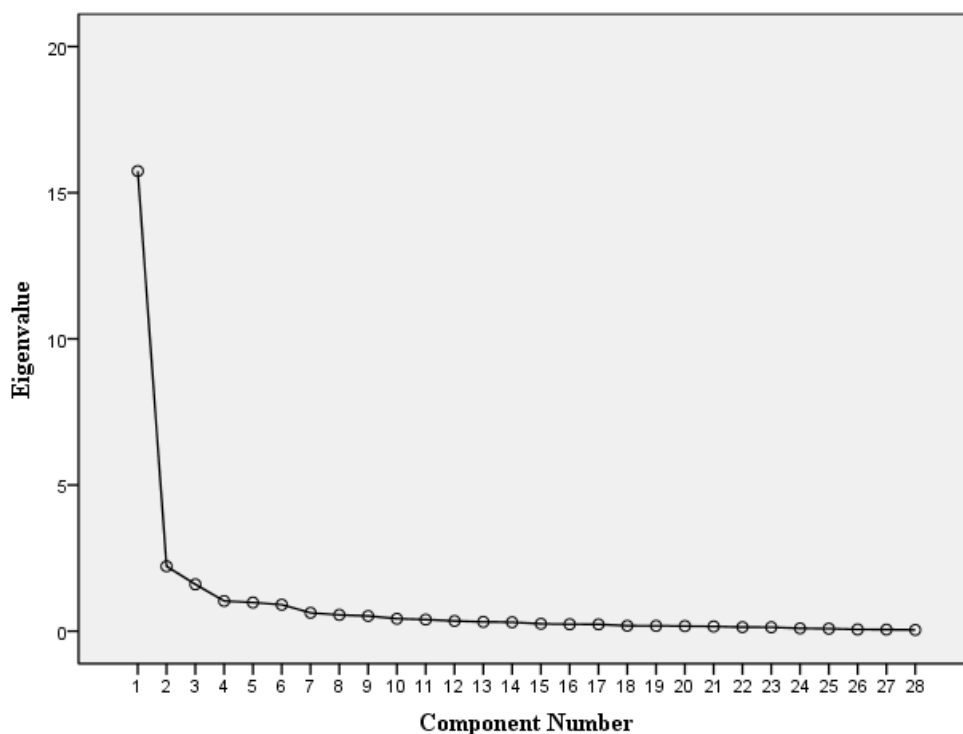


Figure 6. PCA scree plot for self-efficacy for teaching RE with SE16 and SE18 removed.

Table 5.9

Self-efficacy for teaching RE – Pattern Matrix Intermediate Solution 2

	Component			
	1	2	3	4
SE9 - develop a love of the Eucharist in my students;	.96	-.05	-.02	.06
SE6 - bring students to a deeper personal relationship with Christ;	.89	.12	.12	.00
SE8 - develop a love of liturgy in my students;	.86	.05	-.04	.03
SE10 - teach students to value the Sacraments as a source of God's grace;	.84	.07	-.07	.06
SE7 - celebrate the life of the risen Christ with my students;	.82	-.03	-.12	-.01
SE28 - teach students to appreciate the sacred power of the Sacraments;	.68	.03	-.18	-.10
SE22 - teach students to pray;	.62	.15	.07	-.23

SE29 - help students to grow in their faith, using my faith as an example;	.60	-.03	.05	-.51
SE5 - teach students to value the Catholic tradition;	.52	.15	-.38	.16
SE19 - teach students how to respond to the activity of God in their lives;	.44	.02	-.38	-.18
SE15 - encourage students to act for justice;	.07	.95	.01	.07
SE14 - encourage students to act for charity;	.10	.94	.01	.07
SE13 - help students to develop solidarity with people suffering injustice;	-.02	.92	-.04	.06
SE26 - help students respect diverse views and opinions about matters of religion;	-.10	.51	-.12	-.47
SE30 - help students respect diverse views and opinions about matters of faith;	.07	.48	.00	-.44
SE24 - teach students about the central doctrines of the Catholic faith;	-.05	.07	-.96	.09
SE25 - teach students about the central dogmas of the Catholic faith;	.00	.05	-.95	.14
SE17 - teach students the doctrines contained in the Catechism of the Catholic Church;	-.01	.06	-.84	.01
SE3 - teach students that the Catholic Scriptures are the revelation of God;	.09	-.06	-.77	-.12
SE20 - teach students how to access the Scriptures confidently;	-.04	.11	-.62	-.27
SE1 - help students to make sense of everyday life experience through the Catholic faith;	.31	-.08	-.62	-.03
SE4 - help students make connections between biblical teachings and their own lives;	-.01	.14	-.55	-.31
SE2 - encourage students to appreciate mystery and awe in their everyday life experience;	.35	.02	-.49	.03
SE21 - teach students to recall important Scripture passages;	.16	.07	-.43	-.25
SE12 - share my personal relationship with Christ with my students;	.18	.02	-.24	-.57
SE11 - show students that I am a witness to the risen Christ;	.31	.00	-.26	-.48
SE23 - engage students in RE, regardless of their faith background;	.09	.33	-.24	-.36
SE27 - show students how to relate the Catholic message to their own lives.	.21	.23	-.33	-.34
<u>Note:</u> Components were identified using values > 0.30				

The same intermediate factor names were retained for this iteration. Examination of the items in the intermediate solution revealed that SE2 (“I can encourage students to appreciate mystery and awe in their everyday life experience”) was problematic because it was loaded on self-efficacy for doctrine and was cross-loaded on self-efficacy for teaching immanence. The respondents may have conflated mystical aspects of the religion with their belief in their capability to teach immanence. To derive a meaningful set of components it was necessary to ensure theoretical alignment of each item in each component. As such, SE2 was removed and the PCA was repeated (see Figure 7 and Table 5.10).

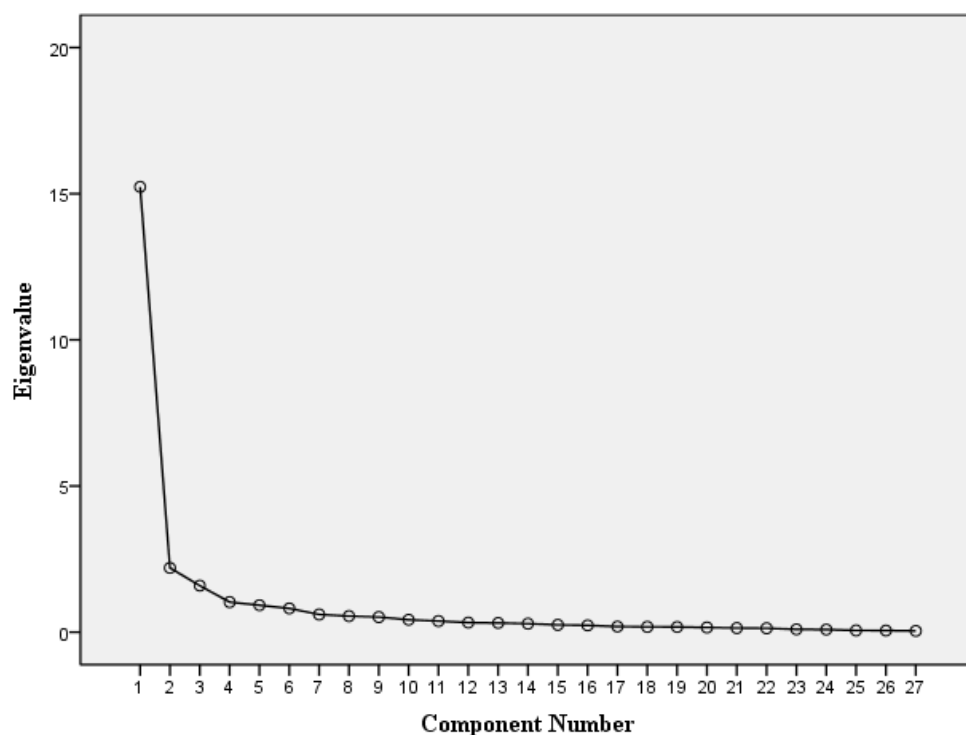


Figure 7. PCA scree plot for self-efficacy for teaching RE with SE16, SE18 and SE2 removed.

Table 5.10

Self-efficacy for teaching RE – Pattern matrix Intermediate Solution 3

	Component			
	1	2	3	4
SE9 - develop a love of the Eucharist in my students;	.97	-.03	-.02	.09
SE6 - bring students to a deeper personal relationship with Christ;	.90	.11	.14	-.02
SE8 - develop a love of liturgy in my students;	.87	.05	-.03	.03
SE10 - teach students to value the Sacraments as a source of God's grace;	.85	.08	-.08	.08
SE7 - celebrate the life of the risen Christ with my students;	.83	-.03	-.10	-.01
SE28 - teach students to appreciate the sacred power of the Sacraments;	.69	.02	-.19	-.06
SE22 - teach students to pray;	.63	.13	.06	-.22
SE29 - help students to grow in their faith, using my faith as an example;	.61	-.07	.03	-.49
SE5 - teach students to value the Catholic tradition;	.53	.15	-.37	.15
SE19 - teach students how to respond to the activity of God in their lives;	.45	.00	-.38	-.18

SE15 - encourage students to act for justice;	.08	.94	.00	.03
SE14 - encourage students to act for charity;	.10	.92	.00	.03
SE13 - help students to develop solidarity with people suffering injustice;	-.01	.90	-.06	.02
SE24 - teach students about the central doctrines of the Catholic faith;	-.04	.07	-.96	.10
SE25 - teach students about the central dogmas of the Catholic faith;	.01	.05	-.95	.16
SE17 - teach students the doctrines contained in the Catechism of the Catholic Church;	.00	.05	-.85	.03
SE3 - teach students that the Catholic Scriptures are the revelation of God;	.09	-.08	-.76	-.12
SE20 - teach students how to access the Scriptures confidently;	-.03	.09	-.68	-.19
SE1 - help students to make sense of everyday life experience through the Catholic faith;	.31	-.10	-.57	-.09
SE4 - help students make connections between biblical teachings and their own lives;	-.01	.11	-.56	-.32
SE21 - teach students to recall important Scripture passages;	.17	.06	-.49	-.16
SE27 - show students how to relate the Catholic message to their own lives;	.22	.19	-.35	-.35
SE26 - help students respect diverse views and opinions about matters of religion;	-.10	.43	-.12	-.57
SE12 - share my personal relationship with Christ with my students;	.19	-.03	-.27	-.56
SE30 - help students respect diverse views and opinions about matters of faith;	.07	.40	.01	-.55
SE11 - show students that I am a witness to the risen Christ;	.32	-.03	-.29	-.43
SE23 - engage students in RE, regardless of their faith background.	.09	.27	-.24	-.42

Note: Components were identified using values $> |0.30|$

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) score for this final iteration of the analysis was .94 and Bartlett's Test of Sphericity score was 7032.29 ($p < .001$) and therefore factor analysis was appropriate for these data. PCA produced three interpretable factors with eigenvalues of 14.63, 2.18, and 1.6, accounting for 56.29%, 8.37%, and 6.13% of variance respectively (Figure 8). The components were named *self-efficacy for doctrine*, *self-efficacy for praxis*, and *self-efficacy for sacramentality*. Table 5.11 presents the final component solution.

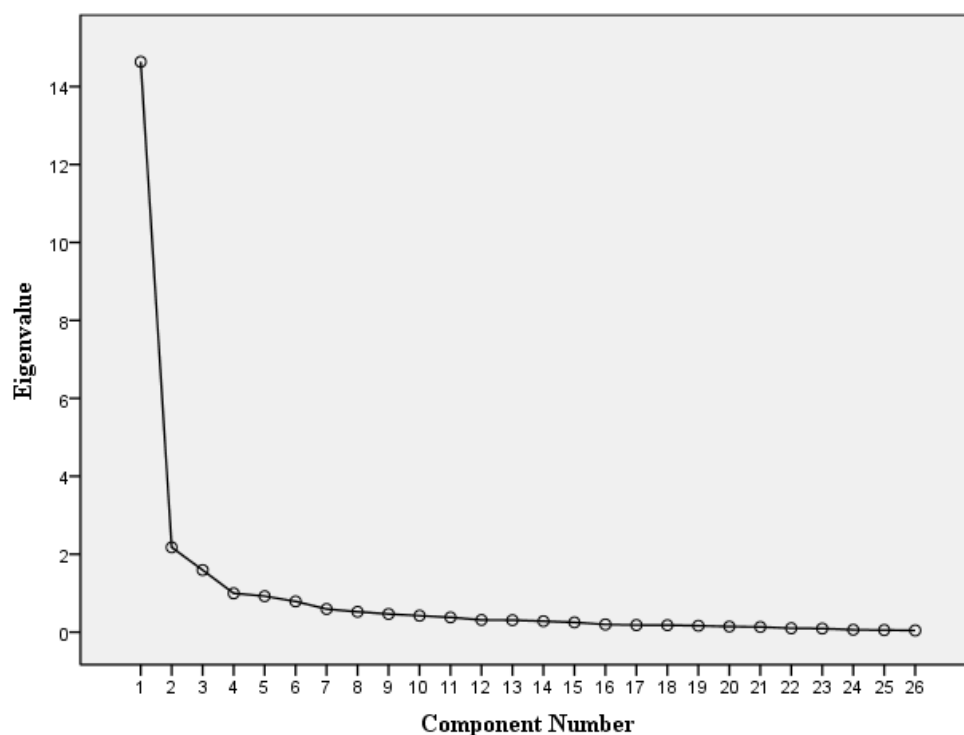


Figure 8. PCA scree plot for self-efficacy for teaching RE with SE16, SE18, SE2 and SE5 removed.

Table 5.11

Final Principal Component Solution for Self-Efficacy for RE with Cronbach's Alpha Reliability Statistics

	Component		
	1	2	3
Component 1 - Self-Efficacy for Sacramentality			
Cronbach's Alpha= .95			
In my RE class I can ...			
SE9 - develop a love of the Eucharist in my students;	.99		
SE6 - bring students to a deeper personal relationship with Christ;	.92		
SE8 - develop a love of liturgy in my students;	.88		
SE10 - teach students to value the Sacraments as a source of God's grace;	.85		
SE7 - celebrate the life of the risen Christ with my students;	.85		
SE28 - teach students to appreciate the sacred power of the Sacraments;	.71		
SE29 - help students to grow in their faith, using my faith as an example;	.72		

SE22 - teach students to pray;	.68
SE19 - teach students how to respond to the activity of God in their lives;	.48
SE11 - show students that I am a witness to the risen Christ.	.40

Component 2 - Self-Efficacy for Praxis

Cronbach's Alpha= .90

In my RE class I can ...

SE15 - encourage students to act for justice;	.94
SE14 - encourage students to act for charity;	.92
SE13 - help students to develop solidarity with people suffering injustice;	.91
SE26 - help students respect diverse views and opinions about matters of religion;	.71
SE30 - help students respect diverse views and opinions about matters of faith;	.67
SE23 - engage students in RE, regardless of their faith background.	.47

Component 3 – Self-Efficacy for Doctrine

Cronbach's Alpha= .93

In my RE class I can ...

SE24 - teach students about the central doctrines of the Catholic faith;	-.96
SE17 - teach students the doctrines contained in the Catechism of the Catholic Church;	-.86
SE3 - teach students that the Catholic Scriptures are the revelation of God;	-.80
SE20 - teach students how to access the Scriptures confidently;	-.72
SE4 - help students make connections between biblical teachings and their own lives;	-.61
SE1 - help students to make sense of everyday life experience through the Catholic faith;	-.60
SE21 - teach students to recall important Scripture passages;	-.52
SE27 - show students how to relate the Catholic message to their own lives;	-.40
SE12 - share my personal relationship with Christ with my students.	-.37

5.3.3 Discussion of the self-efficacy for teaching RE factors.

The results of the PCA revealed that self-efficacy for teaching RE was made up of three factors. The Cronbach's Alpha scores for each of the scales indicated that there was valid internal consistency in each scale and the final component solutions presented a coherent model of self-efficacy for teaching RE comprising self-efficacy for sacramentality, self-efficacy for praxis, and self-efficacy for doctrine. This model accounted for 70.79% of variance. Each factor will be described in more detail below.

5.3.3.1 *Self-efficacy for sacramentality.*

According to the Catechism of the Catholic Church, through the sacraments “Christ communicates his Holy and sanctifying Spirit to the members of his Body” (Catholic Church, 1997. Article 739). The word sacrament connotes a variety of meanings in Catholic discourse. As a proper noun, Sacrament refers to the most significant sacred rituals in the Catholic Church, including Eucharist and Baptism. In the the first centuries of Christianity, prior to the application of the word sacrament, the Greek term *mysterion* was used to convey the mysterious nature of the central rites of the emerging Christian religion. In contemporary Christian theology, sacramentality is understood as the religious hermeneutic through which Christians interpret their experience as connected to their belief in God (Cooke, 1983). Christians believe that this mindfulness about God’s presence in the midst of experience allows for the development of a personal relationship with God. The sharing of this belief is at the heart of evangelisation, which invites others to interpret their own experience through the same religious hermeneutic. The Catholic Church asserts that access to education which engages students in this supernatural interpretation of human life is a right owed to the children of all Catholic believers and that the “concept of the human person being open to the transcendent necessarily includes the element of religious education in schools” (Grocholewski, 2009. Section 3a. Para 10.). The role of the RE teacher in this process of communicating the transcendent aspects of the Catholic religion was made clear by the Church which has written that the “integration of culture and faith is mediated by the other integration of faith and life in the person of the teacher” (Garrone, 1977, para 43).

The Catholic diocesan authorities in each state and territory of Australia direct schools, RE teams and RE teachers to share this work of sacramental education, by giving students access to and understanding of the mysterious and numinous elements of the

Catholic religion. In the Diocese of Parramatta in New South Wales, RE teachers are required to “share in the work of Jesus to reach out to others and spread the good news about life and its purpose” (Catholic Education Diocese of Parramatta, 2016). In New South Wales and the Australian Capital Territory, the Bishops instructed that, through the evangelising work of RE teachers, students in Catholic schools would “be brought to a knowledge and, as far as possible, love of the person, life and teachings of Christ and of the Trinitarian God of Love” (Bishops of NSW and the ACT, 2007). The pedagogical strategies necessary to bring about such a profound outcome require a significant personal investment on the part of RE teachers, who are expected to ‘give witness’ to their own religious faith and to share their experience of sacramentality with their students in such a way that it may influence the students’ own religious hermeneutic. Pope Francis requested of RE teachers that “above all, with your life be witnesses of what you communicate” (Pope Francis, 2013, para 8). The beliefs teachers have about their capability to achieve this outcome is their self-efficacy sacramentality (SES).

5.3.3.2 Self-efficacy for praxis.

Whilst the term praxis is originally Aristotelian, referring to any public activity marked by purpose and reflection (Belfiore, 1983), in religious terms praxis has come to mean the practical application of one’s faith (Groome, 2014). Groome developed this concept to mean “our personally initiated engagement in the world as agent-subjects” (1991, p. 66), whereby one’s actions are shaped by one’s Christian faith. RE teachers in Catholic schools are expected to create and lead activities that may be conceived of as the application of Catholic Christian doctrine, most obviously expressed through prayer and liturgy, charitable outreach, advocacy for the marginalised sectors of the community and personal development experiences founded on ‘Gospel values’ such as human dignity, justice, peace and love. The Catholic Church has encouraged schools to teach students that they are agents for justice and

goodness in their own communities. Catholic schools engage in the “courageous teaching of the demands of justice even in the face of local opposition, but tries to put these demands into practice in its own community in the daily life of the school” (Garrone, 1977, para 58). In the face of these demands, RE teams and RE teachers must devise learning programs which allow students to engage in and appreciate activities which are a practical expression of the Catholic religion. Each Catholic diocese in Australia provides direction to Catholic schools about how to engage students in Catholic praxis. For example, Queensland Catholic Education Commission expects schools to provide “the opportunity to break open scripture and make it relevant to students and staff. The [social justice] program needs to be experiential, sustainable and provide real experiences for staff, students and parents” (Queensland Catholic Education Commission, 2014). The Diocese of Melbourne, as a component of their vision for learning, states that all learners will “make a difference in the world ... to grow in virtue and act for justice and the common good” (Catholic Education Melbourne, 2016). Teachers will bring to these requirements of their role, a belief about their self-efficacy; that is, their belief in their own capability to provide these praxis experiences to students. It is this concept of praxis that is identified in self-efficacy for praxis (SEP).

5.3.3.3 Self-efficacy for doctrine.

Catholic doctrine is the codified set of beliefs and religious knowledge developed over two millennia and compiled in the Catechism of the Catholic Church (Catholic Church, 1997) and based on the Christian Bible. The document is produced by the Church as an authoritative reference for the purpose of catechesis which is defined in the Catechism of the Catholic Church as “an education in the faith of children, young people and adults which includes especially the teaching of Christian doctrine imparted, generally speaking, in an organic and systematic way, with a view to initiating the hearers into the fullness of Christian

life” (Catholic Church, 1997. II. 5). The Catholic Church acknowledged the critical role played by teachers in this pursuit, as expressed by the Sacred Congregation for Catholic Education, an agency of the Vatican, when it stated “the importance and need for catechetical instruction in Catholic schools cannot be sufficiently emphasised. Here young people are helped to grow towards maturity in faith” (Congregation for Catholic Education, 2009. para 51). Teachers of RE, therefore, are required to teach the doctrines of the Church to their students, and support and assess the students’ growth in religious knowledge. For example, in Western Australia, the Catholic Bishops wrote that “Religious Education aims to share Catholic faith by promoting knowledge and understanding of the Gospel, as it is handed on by the Catholic Church” (Catholic Education Commission of Western Australia, 2009, p. 32). Likewise, the Bishops of New South Wales and the Australian Capital Territory wrote that “RE curriculum, methodologies, texts and other resources will be chosen to ensure that by the end of their schooling students know the core teachings of our faith, our Scriptures, history and tradition (‘Catholic religious literacy’) and how these are to be lived in the world” (Bishops of NSW and the ACT, 2007, p. 14). This component of the duties of RE teachers requires them to have mastered a corpus of knowledge about the doctrine of the Church and of the pedagogical practices necessary for teaching this to their students. This research contends that RE teachers have self-efficacy for doctrine (SED), and that these beliefs may be related to, yet distinct from, their self-efficacy beliefs about other components of teaching RE (SES and SEP).

5.3.3.4 Principal Component Analysis of the Collective Efficacy for RE Items.

Respondents responded to the 27 collective efficacy for teaching RE items on an 11-point scale (0% Confidence to 100% Confidence). The data were submitted to the same process of PCA as the self-efficacy for teaching RE items. The scree plot suggested two

components suitable for analysis (Figure 9) with eigenvalues 18.78, and 1.22, accounting for 69.59%, and 4.52% of variance respectively.

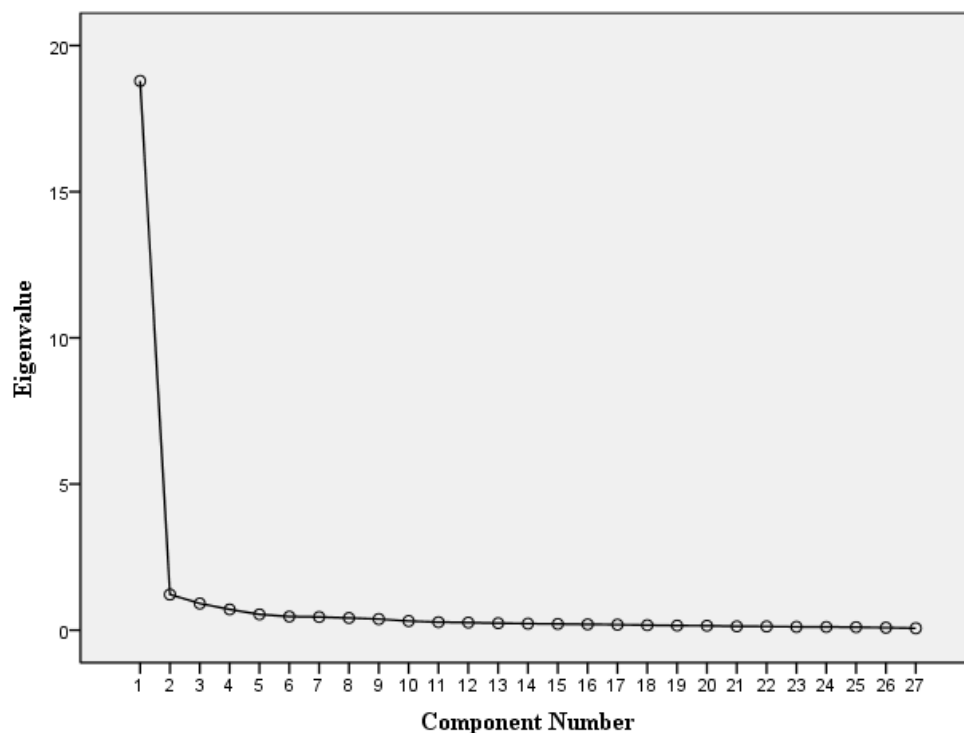


Figure 9. PCA scree plot for collective efficacy for teaching RE.

An analysis of how the items loaded on each component revealed that the intermediate components could be labelled *Collective Efficacy for Curriculum* and *Collective Efficacy for Praxis*. The items loaded on the collective efficacy for curriculum component were mostly concerned with the organisation and administration of the religious education programs in the school, their delivery, and assessment by the RE team. The component labelled collective efficacy for praxis contained items concerned with the RE team giving students the opportunity to put the Catholic faith into practice through prayer, liturgy, retreats and social justice activities. The pattern matrix that was produced did not show significant cross-loading between the components (Table 5.12). Only two items loaded on both

components: “My team can report learning achievement in RE to parents (CE24)”, and “My team can provide opportunities for meaningful prayer (CE6)”. Both these items loaded more on the first component, Collective Efficacy for Curriculum. Item CE24, concerned as it is with reporting curriculum outcomes, is a meaningful inclusion in the first component. Item CE6, however, is a much better fit for the second component, as it relates to putting belief into practice. Item CE6 was eliminated and the analysis was repeated.

Table 5.12

Collective efficacy for teaching RE – Pattern Matrix Intermediate Solution

Items	Component	
	1	2
The RE team in which I work can ...		
CE12 - implement quality assessment in RE;	.99	-.13
CE22 - cooperate on the continuous improvement of RE programs;	.99	-.13
CE4 - design learning experiences for RE that are rigorous;	.96	-.08
CE1 - develop quality teaching and learning programs for RE;	.94	-.09
CE2 - develop quality resources for the RE programs;	.93	-.05
CE27 - cooperate on innovative approaches to teaching RE;	.93	-.02
CE8 - collaborate on planning for RE;	.93	-.07
CE3 - design learning experiences for RE that are relevant to students;	.90	.01
CE14 - motivate RE teachers;	.89	.01
CE10 - mutually support the team to nurture the spirituality of RE teachers;	.86	.06
CE26 - encourage the team in their work as RE teachers;	.86	.04
CE15 - support teachers new to RE teaching;	.85	-.04
CE17 - promote RE as a high-quality subject;	.82	.11
CE25 - create a culture of high expectations in RE;	.77	.13
CE13 - develop a strategic vision for RE in the school;	.70	.19
CE5 - design learning experiences for RE that nurture students' faith;	.69	.23
CE23 - manage student records in RE;	.68	.18
CE16 - use data to improve student learning in RE;	.62	.25
CE18 - inspire students to participate in RE activities;	.60	.37
CE9 - articulate the Catholic vision of the school;	.57	.36
CE6 - provide opportunities for meaningful prayer.	.56	.34
CE24 - report learning achievement in RE to parents;	.44	.37
CE11 - act for social justice;	-.05	.82
CE21 - respond to charitable appeals;	.01	.80

CE19 - conduct high-quality retreat programs for students;	.05	.71
CE20 - celebrate the Catholic tradition;	.26	.65
CE7 - provide opportunities for students to develop a love of liturgy.	.36	.55

Note: Components were identified using values $> |0.30|$

The second iteration of the Principal Component Analysis, omitting item CE6 resulted in two components with eigenvalues 18.12 and 1.21. These components accounted for 69.69% and 4.66% of variance respectively. The data yielded a KMO score of 0.971 and a Bartlett's Test of Sphericity score of 7930.03 ($p < .0001$), which indicated that the data were appropriate for factor analysis. Although there were cross-loadings for items 18, 9, 24 and 7, their loading on the component was logical. As such, none of the cross-loadings was considered problematic. The items loaded on the two components previously identified. These are presented as the final principal component solution for Collective Efficacy for RE in Table 5.13.

Table 5.13

Final Principal Component Solution for Collective Efficacy for RE with Cronbach's Alpha Statistics for Reliability

	Component	
Component 1 - Collective Efficacy for RE Curriculum	1	2
Cronbach's Alpha= .98		
The RE team in which I work can ...		
CE12 - implement quality assessment in RE;	.99	
CE22 - cooperate on the continuous improvement of RE programs;	.98	
CE4 - design learning experiences for RE that are rigorous;	.95	
CE1 - develop quality teaching and learning programs for RE;	.94	
CE27 - cooperate on innovative approaches to teaching RE;	.93	
CE2 - develop quality resources for the RE programs;	.92	
CE8 - collaborate on planning for RE;	.92	
CE3 - design learning experiences for RE that are relevant to students;	.92	

CE14 - motivate RE teachers;	.90
CE10 - mutually support the team to nurture the spirituality of RE teachers;	.87
CE26 - encourage the team in their work as RE teachers;	.86
CE15 - support teachers new to RE teaching;	.84
CE17 - promote RE as a high-quality subject;	.83
CE25 - create a culture of high expectations in RE;	.77
CE5 - design learning experiences for RE that nurture students' faith;	.71
CE13 - develop a strategic vision for RE in the school;	.71
CE23 - manage student records in RE;	.66
CE18 - inspire students to participate in RE activities;	.62
CE16 - use data to improve student learning in RE;	.61
CE9 - articulate the Catholic vision of the school;	.58
CE24 - report learning achievement in RE to parents;	.42
<hr/>	
Component 2 – Collective Efficacy for Praxis	
Cronbach's Alpha= .86	
<hr/>	
The RE team in which I work can ...	
CE11 - act for social justice;	.85
CE21 - respond to charitable appeals;	.82
CE19 - conduct high-quality retreat programs for students;	.67
CE20 - celebrate the Catholic tradition;	.63
CE7 - provide opportunities for students to develop a love of liturgy;	.52
<hr/>	

5.3.3.5 Principal component analysis of the implicit theory of faith and student ability in RE items.

The implicit theory of faith and student ability in RE data was drawn from responses to a six-item survey with a seven-point scale (Strongly Agree to Strongly Disagree). The KMO score of .880 and Bartlett's Test of Sphericity score of 3329.89 ($p < .001$) indicated suitability for PCA. Only one component emerged, accounting for 89.75% of variance. The scree plot confirmed this assumption of a single component (Figure 10), and the component matrix showed loadings ranging from .94 to .96 for the single component (Table 5.14). This result confirmed the existence of a single variable described by these data, concerned with

RE teachers' implicit theories about their students' ability to learn and grow in their classrooms. The theoretical framework and instrument design, however, had two distinct variables. The first three items in the instrument dealt with teachers' implicit theories about the nature of their students' ability in learning RE, that is, whether their ability was a fixed entity or capable of growth and development. The second set of three items focused on teachers' beliefs about whether their students' personal faith could grow and change. The PCA revealed that respondents did not distinguish between the two variables.

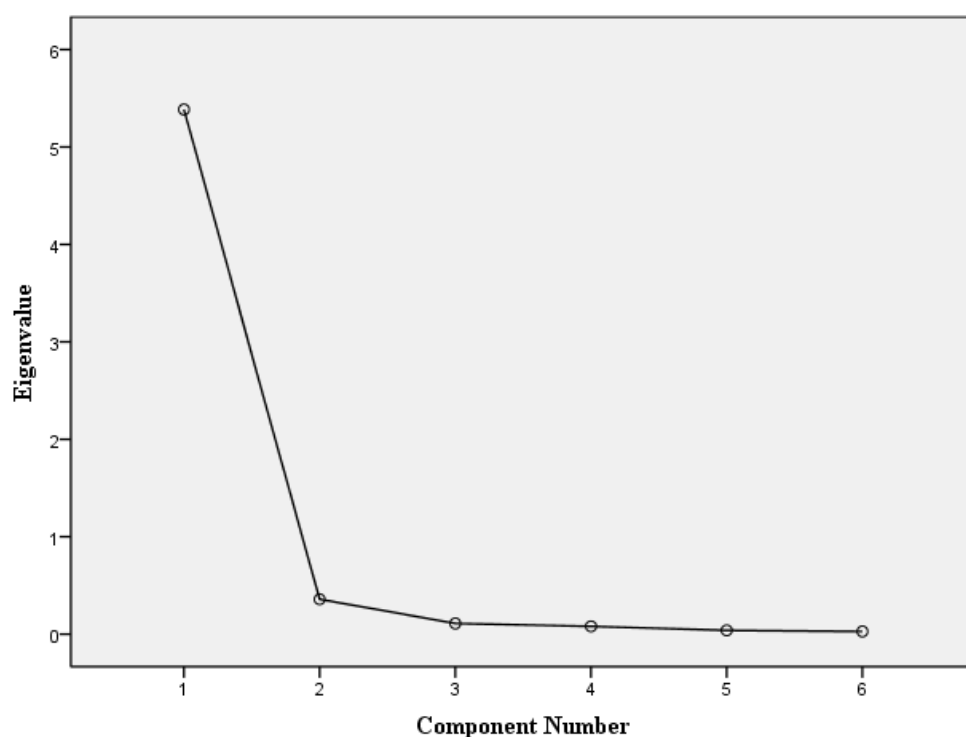


Figure 10. PCA scree plot for teachers' implicit theories about student ability in RE and student faith.

Table 5.14

RE teachers' implicit theories of students' RE ability and faith – component matrix

Cronbach's alpha = .92	Component
1. Students have a certain amount of ability in RE and you really can't do much to change it	.95
2. Ability in RE is something about students that you can't change very much	.95
3. Students can learn new things in RE, but you can't really change their basic ability in RE	.94
4. Students have a certain amount of faith, and you really can't do much to change it	.96
5. Faith is something about students that you can't change very much	.96
6. Students can have faith experiences, but we can't really change their basic faith	.94

The emergence of a single factor for this variable is counter to the expectation proposed in the theoretical framework. It appeared that the teachers did not distinguish between their implicit theories for student ability in RE and their implicit theories about students' faith. It was decided that since the context of the study essentially deals with the teaching of religious education and that RE ability arguably was more salient than faith to the self-efficacy for teaching RE, the study should proceed with *implicit theories about student ability in RE* as the variable in this section and not implicit theories about student faith. Consequently, the PCA was repeated with only the implicit theories about student ability in RE items. There was a single component solution with eigenvalue 2.55 and 84.86% of

variance explained (Table 5.15). These data yielded a KMO score of .71 and a Bartlett's Test of Sphericity score of 560.51 ($p < .001$). It was decided that subsequent analysis would be best served with this single, theoretically coherent component.

Table 5.15

Final Principal Component Solution for Implicit theory of student ability in RE with Cronbach's Alpha Statistic for Reliability

Cronbach's alpha = .91	Component
1. Students have a certain amount of ability in RE and you really can't do much to change it	.92
2. Ability in RE is something about students that you can't change very much	.95
3. Students can learn new things in RE, but you can't really change their basic ability in RE	.89

5.3.3.6 Principal component analysis of the intrinsic spirituality items.

A KMO score of .92 and Bartlett's Test of Sphericity score of 2623.47 ($p < .001$) for the intrinsic spirituality items indicated suitability for PCA and only one factor emerged with an eigenvalue of 5.25, accounting for 87.57% of variance. The scree plot is shown in Figure 11 and Table 5.16 shows the PCA loadings of each item. This result suggested a single *intrinsic spirituality* variable present in this data.

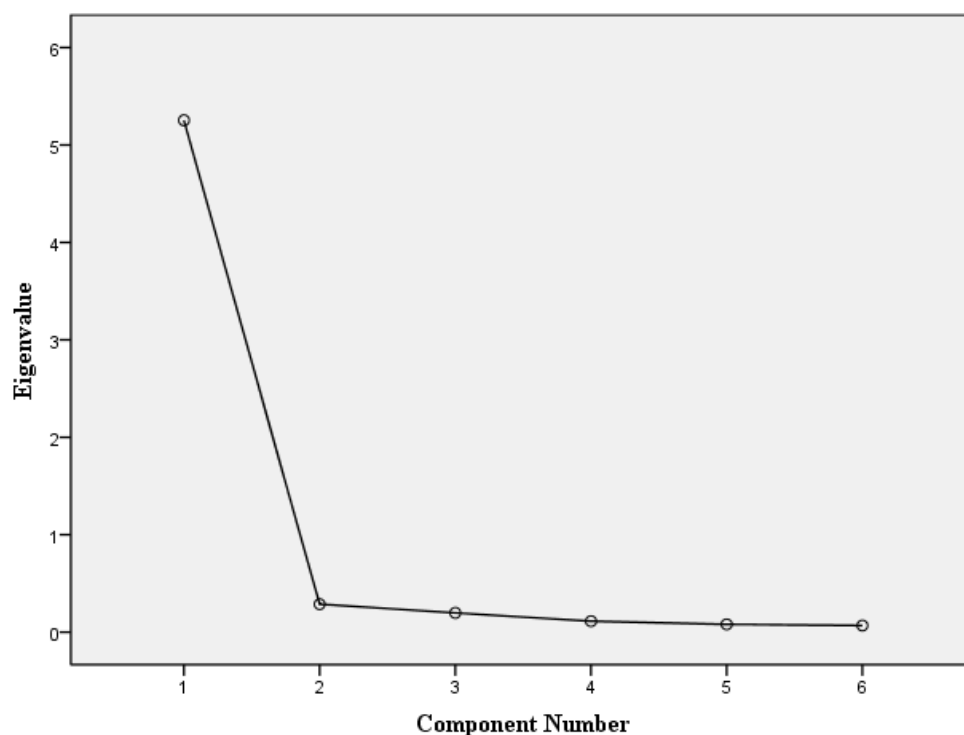


Figure 11. PCA scree plot for intrinsic spirituality.

Table 5.16

Final Principal Component Solution for Intrinsic Spirituality.

Cronbach's alpha = .92		Component Loading
1. In terms of questions I have about my life, my spirituality answers (either) no questions (or) absolutely all my questions		.87
2. Growing spirituality is (either) of no importance to me (or) more important than anything else in my life		.95
3. Spirituality is (either) not part of my life (or) the master motive of my life, directing every other aspect of my life		.95
4. When faced with an important decision in my life, my spirituality (either) plays absolutely no role (or) is always the overriding consideration		.94
5. When I think of things that help me to grow and mature as a person, my spirituality (either) has no effect on my personal growth (or) is absolutely the most important factor in my personal growth		.96
6. My spiritual beliefs affect (either) no aspects of my life (or) absolutely every aspect of my life		.95

5.4 Multilevel Modelling

5.4.1 Correlational analysis.

Before undertaking regression analysis on the variables identified through PCA, correlations between the variables were inspected. Table 5.17 shows correlation analysis for the level 1 variables: SES; SEP; SED; ITR, and IS. Table 5.18 shows the correlation matrix for the level 2 variables CEP and CEC. Each of the “theoretical” variables were positively correlated with $p < .005$. The two measures of collective efficacy (curriculum and praxis) were very strongly correlated ($r = .815, p < .001$), raising the question of whether they were the same phenomenon. Considering that participants were answering collective efficacy items about the same team, it is reasonable to expect that a team with strong collective efficacy in one domain (curriculum) could have strong collective efficacy in a different but related domain (praxis), even though collective efficacy is domain specific (Bandura, 2000). It is conventional to consider Pearson zero-moment correlation coefficients $> .60$ as potentially problematic for regression analysis, and for Pearson coefficients $> .70$ to be excluded from regression models (Belsley et al., 1979; Tabachnick & Fidell, 2013). When there is insufficient variance between predictor variables, their contributions may be either redundant or confounding. These two level 2 variables were later subjected to variance decomposition analysis to make a judgement about their inclusion in the regression analysis.

Table 5.17

Correlations of Level 1 Theoretical Variables

	SES	SEP	SED	ITR	IS
SES	1	.51***	-.66***	.40***	.48***
SEP	.51***	1	-.54***	.33***	.31***
SED	-.66***	-.54***	1	-.36***	-.49***
ITR	.40***	.33***	-.36***	1	.36***
IS	.48***	.31***	-.49***	.36***	1

Note: *** $p < .001$

Table 5.18

Correlations of Level 2 Theoretical Variables

	CE Praxis	CE Curriculum
CEP	1	.82***
CEC	.82***	1

Note: *** $p < .001$

What is of particular interest is that some correlations between level 1 variables are negative: specifically, SED is negatively correlated with all other variables, that is what may be logically predicted, the higher teachers' SED, the lower the other measures of self-efficacy and vice versa. It may be reasonably expected that teachers who have strong self-efficacy beliefs for communicating the doctrines and teaching of the Catholic faith to their students would likely be those with more experience. However, the correlation between SED and years of experience teaching RE is negative ($r = -.70, p < .001$). That SED is negatively correlated with all other theoretical variables and with key observed variables makes it a

variable of interest for further exploration and enquiry. As has already been identified, international research into the psychology and motivation of RE teachers that may explain this set of correlations is non-existent. A thorough search of research databases yielded no results for psychology/motivation/self-efficacy of RE teachers. The finding of a negative correlation between SED and the other variables may have a range of speculative explanations. For example, that teaching doctrine may be perceived by teachers as the 'easiest' of the RE teaching domains and that teachers who believe themselves relatively unsuccessful in achieving the more transcendent aims of the RE curriculum believe themselves more capable when dealing with Catholic doctrinal beliefs. This speculation may also apply to early career teachers or teachers who are teaching outside their subject area, who rate their SES and SEP quite low, but, armed with precise resources or their recent qualifications, are comparatively confident in teaching the doctrines. Mean SED factor score for RE teachers who were not Catholic was .64, whilst the mean for Catholic teachers was -0.75 indicating that non-Catholic RE teachers ($n = 26$) were more likely to have stronger positive self-efficacy beliefs about teaching doctrine than Catholic teachers. Kardong-Edgren (2013) and others identified the existence of false self-efficacy beliefs, that is, an inflated or misplaced assessment of one's own capability to perform a task. This false self-efficacy may be a result of misjudgement about one's mastery at a task, or in response to inaccurate verbal feedback about one's performance. It could be speculated that inexperienced or less qualified teachers may be attending to distorted cues about their mastery in teaching Catholic doctrine and building a false self-efficacy belief as a result. Whilst these arguments may help to explain the phenomenon from the point of view of inexperienced or non-Catholic teachers, it does not account for the obverse, that is, experienced, Catholic RE teachers were more likely to have weak self-efficacy beliefs about their capability to teach doctrine and weaker self-

efficacy beliefs than they had for the other domains of teaching RE. The strongest negative correlation was between SED and SES ($r = -.66, p < .001$). It may be speculated that, once RE teachers gain experience in the role, they may be aware of the magnitude of doctrine to be learned and mastered by their students or may have insight into the limitations of their own knowledge or capability to transmit this through their teaching. Further, teachers who had strong SES but weak SED may have fewer positive mastery experiences with their students learning the doctrines of the Church, or their mastery of teaching sacramentality may have carried with it stronger valence, or a more intense psychological arousal than when teaching doctrine, thus enhancing their self-efficacy for SES compared to SED.

Gender and mean factor scores were compared for SES, SED and SEP. Pearson correlation coefficients for SES and SED with gender were not statistically significant. Female respondents generally had significantly higher means for SEP ($M = .16$ for females, $M = -.26$ for males). This is consistent with psychological and demographic research which has consistently reported females score more highly in measures of religiosity (Freese, 2004; Schnabel, 2017), religious participation (Hackett, McClendon, & Fengyan Shi, 2016) and teaching subjects in the humanities (Basten, 1997; Drudy, 2008).

5.4.2 Variance decomposition.

The data collected using the survey instrument were multi-level in nature. Items about teacher demographics and the scale items were designed with individual teachers as the unit of analysis. Data collected to describe teams and schools within which the teachers worked were level 2 data. Variance decomposition identifies proportions of variance at the individual level which may be accounted for by team differences. The intraclass correlation statistic (*ICC*) identifies the proportion of variance accounted for by variables at level 2 (Klein & Kozlowski, 2000).

Table 5.19 displays the intraclass correlation for each variable. The variance decomposition analysis estimated statistically significant differences between teams (i.e., between schools) in gender, CEP and SES. The statistically significant intraclass correlation value for gender is likely impacted by the employment practices in single-sex schools, which may hire predominantly male or female RE teachers. The statistically significant variance at the team level for CEP suggests that there may be differences in these variables at the team level. As has been discussed earlier, collective efficacy is measured at level 1, but analysed at level 2. There are insufficient data to explain the cause of intrateam variance related to CEP and SES. CEC did not have statistically significant variance at the team level, even though it is a level 2 construct in the theoretical framework. It was also highly correlated with CEP. Consequently, CEC was omitted from the regression analysis. The variables included in the regression analysis were SES, SEP, SED, CEP, ITR and IS.

Table 5.19

Intraclass Correlation Analysis of Variables

Variable	Intraclass Correlation	<i>p</i> -value
Gender	.08*	0.03
Catholic	.02	0.48
Qualifications	.04	0.33
Accreditation	.03	0.58
RE Experience	.04	0.54
Experience at this school	.16	0.28
Intrinsic Spirituality	.01	0.89
Implicit Theory RE	.05	0.29

Variable	Intraclass Correlation	<i>p</i> -value
CE for Curriculum	.10	0.06
CE for Praxis	.09*	0.03
SE for Doctrine	.08	0.17
SE for Praxis	.03	0.50
SE for Sacramentality	.07*	0.05

* $p \leq .05$

5.4.3 Regression modelling and analysis.

Regression analysis, using MPlus Statistical Software (Version 8 with Multilevel Add-on), was used to test the hypotheses stated in Section 3.2 related to individual level (Level 1) variables and multi-level regression analysis was used to test hypotheses at the RE team level (Level 2). It should be acknowledged that relationships identified in this section may not be interpreted as causal relationships. The regression analyses were used to examine the relationship between the variables, within and between levels.

5.4.3.1 Introduction of variables into the regression model.

A theoretical justification for the order in which variables were entered into the model was developed. Personal, demographic variables were entered first, and these were ordered according to their temporal and proximal relationships to the respondent. Therefore, gender was the first variable introduced to the regression model as this factor is (usually) established at birth. This was followed by whether the respondent was Catholic. Infant baptism is the most common form of initiation into the Catholic religion (Catholic Church, 1997, para. 1231) and likely a characteristic with which most respondents have identified for most of their lives. As has already been established, being a baptised Catholic is a stated pre-requisite

for teaching RE in Catholic schools in every diocese of Australia. Therefore, most respondents would have been baptised Catholic prior to teaching Catholic RE, even if they were not baptised as infants. Tertiary qualifications were introduced next. Having an approved qualification is a requirement for teaching RE in Catholic schools. Qualifications, being categorical, were entered as dummy variables. Hair et al. (2010) defined a dummy variable as a “nonmetrically measured variable transformed into a metric variable by assigning a 1 or a 0 to a subject, depending on whether it possesses a particular characteristic” (p. 2). Their inclusion in this model is to identify the statistical significance of qualifications generally, rather than the magnitude or direction of any relationship between individual levels of qualifications and the dependent variables. The five qualification dummy variables listed were analysed by the software with reference to respondents who had a Masters Degree in RE/Theology or higher (the reference variable). Post hoc testing was applied to analyse the influence of various levels of qualifications once the regression model had been completed.

The demographic data were followed by two measures of experience: the first was years teaching Catholic RE and the second was years teaching Catholic RE in the current school and RE team. Each demographic variable was retained in the model throughout the analysis, even when not statistically significant, to control for any residual effect the variable may have had. Hair et al. (2010) cautioned against removing independent variables that are inherent features of the respondents because “neglecting them ignores potential sources of difference that, left unaccounted for, may obscure some results of interest to the study” (p. 680).

The two level 1 theoretical variables were next added to the model, beginning with intrinsic spirituality. The instrument that was used (Hodge, 2003) sought to measure “the

level of internalized, spiritual commitment of those individuals who express their spirituality within a religious framework” (Hodge, 2003, p. 45). Considering this variable likely was deeply rooted in the beliefs of the respondents it was judged to be more proximal than ITR and it was introduced to the regression model before ITR.

Level 2 variables were arranged using the same principles of temporal and proximal relationship to the respondents, beginning with control variables. School location, and the school’s coeducational arrangement were first introduced as these are fixed and enduring features of each team’s environment. This was followed with team features in the following order; size, meeting frequency, and the experience of the REC. The control factors related to relative school performance and quality were next added to the model. These were ICSEA (educational advantage), NAPLAN (standardised testing result aggregates) and student attendance rate.

The final variable to be added to the model was the Level 2 theoretical predictor variable, CEP.

5.4.3.2 Development of regression models.

Level 2 variables and “theoretical” variables were removed from the model if they were statistically non-significant. When this occurred, the model was returned to its most recent statistically significant iteration and the next variable was introduced. Regression analysis was conducted with each of the self-efficacy variables as the dependent variable: SES, SED and SEP. By monitoring the loglikelihood function, it was possible to assess whether each iteration improved the model fit. Whilst the loglikelihood function is sensitive to sample size, as a progressive measure over multiple iterations, it is useful as a means by which to judge whether a model is improving or deteriorating with each iteration, by observing if the loglikelihood function is approaching zero (improving) or moving away from

zero (deteriorating) (Rohde, 2014). In multilevel analysis, where the *R-squared* statistic of regression fit is not applicable, loglikelihood is an acceptable statistic by which to observe improving fit (Rohde, 2014). Judgements of goodness of fit rely on both the loglikelihood statistic and the theoretical coherence of the results.

5.4.4 Multi-level regression analysis with SES as dependent variable.

Iterations of the SES regression model were produced by introducing one variable at a time (Table 5.21) to identify significant predictors. In models 2, 3 and 4, being Catholic was a statistically significant predictor of SES. However, this variable became statistically non-significant when RE teaching experience was added to the model. There was a statistically significant negative effect of qualifications in models 3 and 4, which disappeared when the theoretical predictor variables were added in model 4 and 5. It is suggested that being Catholic and being qualified were important but only in so much as they are displaced by the beliefs and psychology of RE teachers, which was measured by the predictor variables in this study: IS and ITR.

ITR was identified as a predictor of SES ($B=.18, p<.001, SE=.05$). In this regression model, teachers were more likely to have stronger beliefs in their capability to teach sacramentality if they also believed in their students' ability in RE as something that can grow and change with their influence than those teachers who believed ability in RE was fixed. Although the variables are quite different, it is posited that teachers' belief in their students' ability to grow and learn will likely affect their persistence in behaviours that can bring about change and growth for their students, including in the domain of sacramentality. This will likely provide more opportunities for mastery experiences, thus enhancing self-efficacy in this domain.

IS predicted SES ($B=.32, p<.001, SE=.06$) and maintained its statistical significance

in each iteration of the model. Of the three dependent variables, SES appeared to be the variable which most relied on the intrinsic spirituality of the teacher. In comparison, the personal resources required to teach doctrine could be identified as content knowledge and pedagogical knowledge, without the necessity of having a strong personal faith or intrinsic spirituality. Perhaps to a lesser extent, teachers may have believed they could be successful teaching praxis if they had doctrinal knowledge, some understanding of the practices of Catholicism, and a well-developed social conscience. Similar to teaching doctrine, it may not be necessary for a teacher to have a strong intrinsic spirituality to engage students in the praxis aspects of RE. Teaching sacramentality, however, requires the teacher to engage students in learning about supernatural, transcendent religious truths and dogmas, without rational or scientific evidence, in a Catholic school environment where a growing number of students are not practising Catholics, or are not Catholic or Christian (Rymarz, 2017). The personal resources required to do this are necessarily significant and likely draw on the teachers' intrinsic spirituality, as well as their knowledge and skills in the areas of doctrine and praxis.

In the final model, CEP was the strongest predictor of SES. It would appear that teachers who worked in teams where there was a shared belief in the team's capability to teach students how to put their faith into practice through social justice outreach, retreat experiences, and opportunities for personal growth in faith, were likely to have stronger belief in their own capabilities to teach students about the mystical and numinous aspects of Christianity, about the indwelling of a supernatural God made human in the person of Jesus (Catholic Church, 1997), and to share with their students their personal faith experience. Conversely, teachers who worked in teams where there was a weak shared belief in their collective capabilities for teaching praxis, were likely to have weaker self-efficacy beliefs

about their capabilities to teach the mystical and numinous components of Catholic RE (SES). Previous research into collective efficacy identified a robust link between collective efficacy of a team and the self-efficacy of team members working towards goals in a similar domain (Fernandez-Ballesteros et al., 2002; Goddard, Hoy, & Hoy, 2000; Lev & Koslowsky, 2009; Schumacher, 2009). The relationship in this regression model was between variables that are related, but different, and operating at different levels of the analysis: SES and CEP. It is posited that when teachers have enactive mastery experiences or observe members of their team experiencing mastery in praxis, it not only enhances their self-efficacy beliefs about teaching praxis, but allows them to engage in the practical, lived expression of sacramentality (SES). If positive psychological arousal was to occur as a product of these collective experiences, this, too, would enhance and reinforce self-efficacy beliefs about teaching RE. The faith-in-action activities that are at the centre of the praxis components of the curriculum may well impact on teachers' intrinsic spirituality, as well as their domain specific self-efficacy in a reciprocal triadic relationship.

Table 5.20

Multilevel Regression Models with SES as the Dependent Variable

		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Level 1	Loglikelihood function	-5604.90	-5557.09	-4987.464	-4827.97	-3636.171	-2602.681
Gender		-.18 (-.15)	-.18 (.15)	-.22 (.14)	-.21 (.14)	-.26 (.14)	-.26 (.14)
Catholic			.69* (.27)	.56* (.26)	.50* (.25)	.46 (.25)	.46 (.25)
No RE qualifications				-.57* (.22)	-.37 (.25)	-.35 (.24)	-.34 (.24)
Certificate of RE				-.15 (.19)	-.17 (.19)	-.11 (.19)	-.11 (.19)
Bachelors degree minor				-.42* (.17)	-.44* (.16)	-.43* (.16)	-.42* (.16)
Bachelors degree major				-.26 (.25)	-.27 (.26)	-.19 (.25)	-.19 (.25)
Masters degree or higher				-.15 (.26)	-.19 (.25)	-.12 (.25)	-.12 (.25)
Accredited to teach RE					.40* (.20)	.30 (.18)	.30 (.18)
RE teaching experience						.01* (.01)	.01 (.01)
RE experience in this school							-.00 (.01)

Note: Standard errors are in parentheses. * $p < .05$ ** $p < .01$ *** $p < .001$

Table 5.20 Continued

Multilevel Regression Models with SES as the Dependent Variable

		Model 7	Model 8	Model 9	Model 10	Model 11
Level 1	Loglikelihood function	-2102.73	-1735.71	-1676.47	-1682.98	-1573.12
Gender		-.26 (.15)	-.20 (.16)	-.19 (.15)	-.20 (.14)	-.19 (.14)
Catholic		.25 (.30)	.27 (.28)	.29 (.30)	.29 (.3)	.29 (.29)
No RE qualifications		-.03 (.24)	-.06 (.23)	.02 (.27)	.03 (.27)	.02 (.27)
Certificate of RE		.09 (.17)	.06 (.18)	.11 (.18)	.12 (.18)	.11 (.19)
Bachelors degree minor		-.20 (.15)	-.25 (.15)	-.17 (.17)	-.15 (.18)	-.17 (.17)
Bachelors degree major		-.03 (.21)	-.05 (.22)	.02 (.22)	.03 (.22)	.02 (.22)
Masters degree or higher		-.01 (.18)	-.04 (.16)	.03 (.16)	.05 (.15)	.03 (.15)
Accredited to teach RE		.28 (.18)	.29 (.18)	.27 (.19)	.27 (.18)	.27 (.18)
RE teaching experience		.01* (.01)	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)
RE experience in this school		-.01 (.01)	-.01 (.01)			-.01 (.01)
Intrinsic spirituality		.42*** (.06)	.35*** (.06)	.36*** (.06)	.36*** (.06)	.36*** (.06)
Implicit theory of RE ability			.20*** (.05)	.19*** (.06)	.20*** (.06)	.20*** (.06)
Level 2						
Location				.03 (.14)	-	-
Coeducational					.16 (.15)	-
Team size						.00 (.01)

Note: Standard errors are in parentheses. * $p < .05$ ** $p < .01$ *** $p < .001$

Table 5.20 Continued

Multilevel Regression Models with SES as the Dependent Variable

		Model 12	Model 13	Model 14	Model 15	Model 16	Model 17
Level 1	Loglikelihood function	-1639.88	-1583.81	-1330.1	-1279.05	-1139.47	-1248.09
Gender		-.17 (.14)	-.19 (.15)	-.25 (.14)	-.26 (.14)	-.25 (.14)	-.24 (.13)
Catholic		.29 (.29)	.28 (.3)	.02 (.25)	.02 (.24)	.02 (.24)	.03 (.23)
<i>Dummy variables:</i>							
No RE qualifications		.06 (.27)	.01 (.27)	.08 (.27)	.08 (.27)	.07 (.27)	-.01 (.27)
Certificate of RE		.13 (.18)	.11 (.19)	.08 (.18)	.07 (.18)	.07 (.18)	.01 (.19)
Diploma of RE		-.14 (.17)	-.19 (.17)	-.16 (.17)	-.18 (.17)	-.18 (.17)	-.24 (.18)
Bachelors degree minor		.01 (.21)	-.04 (.22)	-.06 (.23)	-.08 (.23)	-.07 (.23)	-.09 (.23)
Bachelors degree major		.04 (.15)	.02 (.15)	-.04 (.15)	-.05 (.15)	-.06 (.14)	-.11 (.15)
Accredited to teach RE		.28 (.19)	.27 (.18)	.28 (.19)	.26 (.19)	.27 (.19)	.23 (.19)
RE teaching experience		.01 (.01)	.01 (.01)	.01* (.01)	.01* (.01)	.01* (.01)	.01 (.01)
RE experience in this school						-.01* (.01)	
Intrinsic spirituality		-.01 (.01)	-.01 (.01)	-.01 (.01)	-.02* (.01)		-.01 (.01)
Implicit theory of RE ability		.36*** (.06)	.36*** (.06)	.37*** (.06)	.37*** (.06)	.37*** (.06)	.35*** (.06)
						.20*** (.05)	
		.19*** (.06)	.19*** (.05)	.20*** (.06)	.20*** (.05)		.18*** (.06)
Level 2							
Location		-	-	-	-	-	-
Coeducational		-	-	-	-	-	-
Team size		-	-	-	-	-	-
Meeting frequency		.07 (.05)	-	-	-	-	-

REC experience	.02* (.01)	.02 (.01)	.02* (.01)	.02 (.01)	.01 (.01)
ICSEA		.00 (0)	-	-	-
NAPLAN aggregate			.00* (.00)	.00 (.00)	.00 (.00)
Attendance rate				.00 (.01)	-
CE for praxis					.36***(.11)

Note: Standard errors are in parentheses. * $p < .05$ ** $p < .01$ *** $p < .001$

Table 5.21

Final Multilevel Regression Model with SES as the Dependent Variable

Final Model	
Level 1	Loglikelihood function -1699.37
Gender	-.19 (.14)
Catholic	.30 (.28)
No RE qualifications	-.08 (.26)
Certificate of RE	.01 (.19)
Bachelors degree minor	-.27 (.17)
Bachelors degree major	-.05 (.21)
Masters degree or higher	-.08 (.15)
Accredited to teach RE	.23 (.18)
RE teaching experience	.01 (.01)
RE experience in this school	-.01 (.01)
Intrinsic spirituality	.32*** (.06)
Implicit theory of RE ability	.18*** (.05)
Level 2	
Location	-
Coeducational	-
Team size	-
Meeting frequency	-
REC experience	-
ICSEA	-
NAPLAN aggregate	-
Attendance rate	-
CE for praxis	.43*** (.1)

Note: Standard errors are in parentheses. * $p < .05$ ** $p < .01$ *** $p < .001$

5.4.4.1 Discussion of results for SES and CEP.

SES emerged as a new construct related to the beliefs held by RE teachers about their capabilities to teach the mystical, sacramental and numinous aspects of the Catholic religion.

Collective efficacy for teaching RE was refined, as a result of factor analysis, so that it became collective efficacy for praxis (CEP). CEP is the shared belief of the RE members about the team's capabilities to teach students about the practical, applied aspects of the RE course; for example, charity, social justice, retreats, prayer, and worship. Teams which successfully worked together to provide experiences of active faith-based learning for students likely influenced individual team members' beliefs about their own capabilities in RE. Further, social learning may have occurred in the team setting of CEP that enhanced the beliefs of teachers about their capabilities to teach the numinous and mysterious foundations of Catholicism to their students. In teams with a shared mental-model of their lack of efficacy in teaching praxis, individual teachers may have struggled to develop a strong belief in their own abilities to teach the sacramental dimension of the religion, reflected in weaker self-efficacy beliefs about teaching sacramentality. The hypothesis that collective efficacy for teaching RE (CEP) will positively predict self-efficacy for teaching RE (SES) is supported.

5.4.4.2 Discussion of results for SES and ITR.

Research has shown that the extent to which teachers hold a growth theory about students' intelligence, the more likely teachers will persist in efforts to help them learn and grow in any area (e.g., Jonsson et al., 2012). In this study, ITR is a statistically significant predictor of SES ($B = .18, p = <.001, SE = .05$). Teachers who reported that they believed student ability in RE was less a fixed entity than a malleable quality, generally had a stronger belief in their self-efficacy for sacramentality. This hypothesis that implicit theories of RE teachers (ITR) will positively predict self-efficacy for teaching RE (SES) is supported.

5.4.4.3 Discussion of results for SES and ITF.

The theoretical construct ‘implicit theories about student faith’ (ITF) was eliminated as a variable during the analysis, so the hypothesis that ITF will predict self-efficacy for teaching RE is not supported.

5.4.4.4 Discussion of results for SES and IS.

The regression analysis indicates that IS is a strong, statistically significant predictor of SES. The hypothesis, that IS will positively predict self-efficacy for teaching RE (SES), is supported by this research. Considering the significant overlap between the skills and aptitudes of the sacramentality domain of teaching RE and the types of thoughts and behaviours that RE teachers who are motivated by their spirituality might engage in, it is plausible that, generally, the stronger teachers’ motivating spirituality, the stronger their self-efficacy for teaching those aspects of the RE curriculum that deal with the non-physical, spiritual parts of the Catholic religion. Conversely, a person with weaker intrinsic spirituality, for whom their spirituality does not directly motivate their behaviour or decisions, may find teaching such esoteric and mystical parts of the RE course more challenging and therefore have less positive mastery experiences in this domain, thus affecting their self-efficacy beliefs. Their self-efficacy may well be affected by the cognitive dissonance between their weak personal spirituality and the act of teaching explicitly spiritual components of the RE curriculum. Their teaching will likely lead to less positive mastery experiences and they will be less likely to attend to the social learning opportunities in their team, and the verbal persuasion of their colleagues will have less impact on their beliefs about their capabilities.

5.4.5 Multilevel regression analysis with SED as the dependent variable.

The control and theoretical variables were introduced into the regression model with SED as the dependent variable in the same order and using the same principles as in the analysis of SES. MPlus could not compute a model with Level 1 variables, ICSEA, and CE for Praxis due to a model nonidentification error. The analysis was continued excluding this model. The first observation of note is that almost every variable in every iteration of the regression whose predictive value was statistically significant was negative. In models one to six, with only the control variables introduced, not being Catholic could predict SED (e.g., $-.71, p < .05, SE = 25$ in model 2). There was also a statistically significant relationship between levels of qualifications (entered as dummy variables) and SED in models 3, 4, and 5. Dummy variables are used in multilevel regression modelling to compensate for the use of univariate statistics (categorical variables) in a multivariate model. The MPlus analysis software applies a process to account for the presence of dummy variables to produce a regression coefficient that indicates statistically significant variance attributable to the dummy variables in relation to a reference variable within the full set of variables measured. To investigate the likely relationship between qualifications and SED further, the levels of qualifications were compared using mean SED for each level (Figure 12). It is apparent from Figure 12 that, generally, the higher the level of qualification, the lower the mean SED. The results of this comparison were subjected to a post hoc Scheffe test to assess the significance of these observations in between-team comparisons. The Scheffe test identifies only the strongest effects in pairwise comparisons (Levine, Page, Braver, MacKinnon, & Levine, 2003). The test indicated that the variance between teams in qualification level on the variable SED was statistically significant for the 'no qualifications' category and the 'Masters

Degree or above' category.

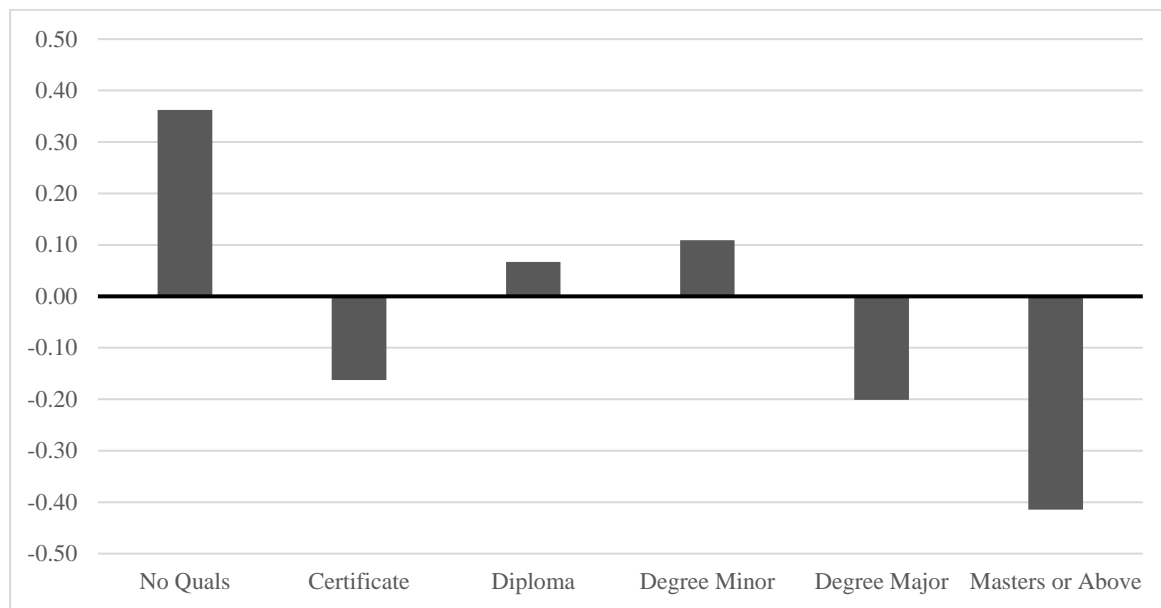


Figure 12. Comparison of mean SED for levels of RE qualification.

In the final model, the strongest predictor of SED was having weak IS ($-.35, p < .001, SE = .08$). Also contributing to the regression were negative coefficients for ITR ($-.14, p < .001, SE = .06$) and a smaller negative proportion attributed to RE teaching experience ($-.02, p < .05, SE = .01$).

The interesting SED data were discussed in the correlation section (5.2.3.3). The theory that teachers who believed they were less capable in teaching sacramentality and praxis (due to inexperience, not being Catholic, or a weak measure of intrinsic spirituality) may have rated their efficacy in teaching doctrine relatively higher, thus creating these negative coefficients in the regression analysis. However, this theory does not account for the majority of teachers who are Catholic and qualified. The teachers in the sample were, on average, very experienced, with mean experience of 12.18 years ($SD = 11.51$). The data indicates a negative relationship between

years of experience and SED, meaning that the longer teachers have been teaching the more likely that will rate their self-efficacy for doctrine as weaker. A corollary to the theory explaining the higher self-efficacy of inexperienced, non-Catholic, non-spiritual teachers may be that teachers with more experience and a stronger intrinsic spirituality may hold a belief that, because of their experience and spirituality they acknowledge that there is much they do not know about the doctrines and theology of the Catholic religion. It may be the case that these teachers were aware of how vast the field of knowledge is and of the relative paucity of their own knowledge. Likewise, the teachers' ITR had a negative predictive value ($B = -.14, p < .05, SE=.070$), meaning that the extent to which teachers believed students could improve in their ability, generally the weaker their SED. In this instance, and in a similar vein to the posited explanations for IS and experience, it may be suggested that teachers who believed there is little they can do to improve students' learning in RE feel more confident dealing with the relatively prescriptive and structured area of doctrine, with its rules, lists, and timelines, in comparison to improving student learning in the less prescriptive areas of praxis and sacramentality. A further explanation may lie in the responses of experienced RE teachers to the challenges facing the Catholic Church in Australia following the revelations of the Royal Commission into Institutional Responses to Child Sexual Abuse (McPhillips, 2018). Teaching young people about the authoritative doctrines of the Church during a crisis of authority for the Church may have generated cognitive dissonance in experienced and spiritual teachers that affected their capability beliefs in this area. The regression of this dependent variable operated in the opposite direction to the hypothesis, suggesting the relationship between SED and the other areas of the self-efficacy of RE teachers requires further investigation.

Table 5.22

Multilevel Regression Models with SED as the Dependent Variable

		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Level 1	Loglikelihood function	-5605.70	-5557.62	-4986.20	-4858.37	-3632.79	-2599.28
Gender		-.07 (.12)	-.06 (.11)	-.01 (.11)	-.01 (.11)	.08 (.11)	.09 (.11)
Catholic			-.71* (.25)	-.55* (.25)	-.53* (.24)	-.47* (.23)	-.47* (.23)
No RE qualifications				.67**(.20)	.58* (.23)	.54* (.21)	.53* (.22)
Certificate of RE				.22 (.19)	.23 (.19)	.14 (.18)	.13 (.19)
Bachelors degree minor				.47* (.24)	.48* (.24)	.45* (.23)	.44 (.23)
Bachelors degree major				.45 (.35)	.45 (.25)	.33 (.33)	.33 (.32)
Masters degree or higher				.14 (.22)	.16 (.22)	.05 (.23)	.04 (.23)
Accredited to teach RE					-.18 (.26)	-.02 (.24)	-.02 (.24)
RE teaching experience						-.02***(.01)	-.02**(.01)
RE experience in this school							.00 (.01)

Note: Standard errors are in parentheses. * $p < .05$ ** $p < .01$ *** $p < .001$

Table 5.22 Continued

Multilevel Regression Models with SED as the Dependent Variable

		Model 7	Model 8	Model 9	Model 10	Model 11
Level 1	Loglikelihood function	-2095.47	-1730.55	-1672.24	-1679.81	-1568.67
Gender		.10 (.10)	.05 (.10)	.04 (.10)	.04 (.11)	.06 (.10)
Catholic		-.21 (.23)	-.22 (.20)	-.24 (.20)	-.23 (.20)	-.22 (.19)
No RE qualifications		.29 (.20)	.31 (.21)	.33 (.20)	.32 (.20)	.33 (.20)
Certificate of RE		.03 (.18)	.04 (.19)	.01 (.19)	.01 (.19)	.00 (.19)
Bachelors degree minor		.28 (.23)	.31 (.24)	.27 (.24)	.27 (.24)	.26 (.23)
Bachelors degree major		.18 (.31)	.20 (.32)	.14 (.29)	.16 (.28)	.15 (.29)
Masters degree or higher		.00 (.19)	.02 (.19)	-.03 (.19)	.01 (.18)	.01 (.18)
Accredited to teach RE		.05 (.22)	.04 (.21)	.06 (.22)	.07 (.22)	.09 (.29)
RE teaching experience		-.02***(.01)	-.02***(.01)	-.02***(.01)	-.02***(.01)	-.02***(.01)
RE experience in this school			.01 (.01)			
		.01 (.01)		.01 (.01)	.01 (.01)	.01 (.01)
Intrinsic spirituality		-.40***(.08)	-.34***(.08)	-.35***(.08)	-.35***(.08)	-.36***(.08)
Implicit theory of RE ability			-.15* (.07)			
				-.13* (.07)	.14* (.07)	-.15* (.07)
Level 2						
Location				-.12 (.09)	-	-
Coeducational					.01 (.15)	-
Team size						.01 (.01)

Note: Standard errors are in parentheses. * $p < .05$ ** $p < .01$ *** $p < .001$

Table 5.22 Continued

Multilevel Regression Models with SED as the Dependent Variable

		Model 12	Model 13	Model 14	Model 15	Model 16	Model 17
Level 1	Loglikelihood function	-1636.00	-1581.09	-1472.91	-1190.24	-1330.27	-1330.27
Gender		.01 (.11)	.04 (.10)	.08 (.10)	.07 (.10)	.08 (.10)	.08 (.10)
Catholic		-.22 (.19)	-.22 (.20)	-.14 (.21)	-.15 (.21)	-.14 (.21)	-.14 (.21)
No RE qualifications		.28 (.22)	.32 (.20)	.27 (.20)	.27 (.20)	.27 (.20)	.27 (.20)
Certificate of RE		-.01 (.20)	.01 (.19)	.04 (.18)	.03 (.18)	.04 (.18)	.04 (.18)
Bachelors degree minor		.25 (.25)	.28 (.24)	.29 (.23)	.29 (.23)	.28 (.23)	.28 (.23)
Bachelors degree major		.17 (.28)	.18 (.29)	.20 (.28)	.20 (.28)	.20 (.28)	.20 (.28)
Masters degree or higher		-.01 (.19)	.01 (.19)	.00 (.18)	.01 (.18)	-.01 (.18)	-.01 (.18)
Accredited to teach RE		.04 (.22)	.07 (.22)	.03 (.22)	.04 (.22)	.03 (.22)	.03 (.22)
RE teaching experience			-.02***	-.02***	-.02***	-.02***	-.02***
		-.02***(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
RE experience in this school		.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)	.01 (.01)
Intrinsic spirituality			-.35***	-.35***	-.35***	-.35***	-.35***
		-.36***(.08)	(.08)	(.08)	(.08)	(.08)	(.08)
Implicit theory of RE ability		-.13* (.07)	-.14* (.07)	-.14* (.07)	-.15* (.06)	-.14* (.06)	-.14* (.06)
Level 2							
Location		-	-	-	-	-	-
Coeducational		-	-	-	-	-	-
Team size		-	-	-	-	-	-

	Model 12	Model 13	Model 14	Model 15	Model 16	Model 17
Meeting frequency	-.07 (.05)	-	-	-	-	-
REC experience		-.01 (.01)	-	-	-	-
ICSEA			.00* (.00)	.00 (.00)	.00* (.00)	.00* (.00)
NAPLAN aggregate				.00 (.00)	.00 (.01)	-
Attendance rate						.00 (.01)

Note: Standard errors are in parentheses. * $p < .05$ ** $p < .01$ *** $p < .001$

Table 5.22 Continued

Multilevel Regression Models with SED as the Dependent Variable

Model 18	
Level 1	Loglikelihood function
	-1700.66
Gender	.05 (.10)
Catholic	-.24 (.20)
No RE qualifications	.31 (.19)
Certificate of RE	.04 (.18)
Bachelors degree minor	.31 (.23)
Bachelors degree major	.18 (.28)
Masters degree or higher	.03 (.17)
Accredited to teach RE	.07 (.22)
RE teaching experience	-.02*** (.01)
RE experience in this school	.01 (.01)
Intrinsic spirituality	-.34*** (.08)
Implicit theory of RE ability	-.14* (.06)
Level 2	
Location	-
Coeducational	-
Team size	-
Meeting frequency	-
REC experience	-

	Model 18
ICSEA	-
NAPLAN aggregate	-
Attendance rate	-
CE for praxis	-.13 (.18)

Note: Standard errors are in parentheses. * $p < .05$ ** $p < .01$ *** $p < .001$

Table 5.23

Final Multilevel Regression Model with SED as the Dependent Variable

		Final Model
Level 1	Loglikelihood function	-1472.91
Gender		.08 (.10)
Catholic		-.14 (.21)
No RE qualifications		.27 (.20)
Certificate of RE		.04 (.18)
Bachelors degree minor		.29 (.23)
Bachelors degree major		.20 (.28)
Masters degree or higher		.00 (.18)
Accredited to teach RE		.03 (.22)
RE teaching experience		-.02** (.01)
RE experience in this school		.01 (.01)
Intrinsic spirituality		-.35** (.08)
Implicit theory of RE ability		-.14* (.07)
Level 2		
Location		-
Coeducational		-
Team size		-
Meeting frequency		-
REC experience		-
ICSEA		.00* (.00)
NAPLAN aggregate		-
Attendance rate		-
CE for praxis		-

Note: Standard errors are in parentheses. * $p < .05$ ** $p < .01$ *** $p < .001$

5.4.5.1 Discussion of results for SED and CEP.

The contribution of CEP to the regression variate for SED was negative although the coefficient was small ($B = -.13$, $p = <.001$, $SE = .18$). The hypothesis that collective efficacy

(CEP) will positively predict self-efficacy for teaching RE (SED) is not supported. It appears the stronger teachers' self-efficacy for helping their students learn the beliefs, scriptures, and doctrines of the Church, the less likely they were to find themselves in an RE team with a positive shared mental-model of its own capabilities to teach praxis and vice-versa. RE teachers in teams that reported strong CEP were less likely to have strong, positive SED than those RE teachers in teams with less strong CEP. Compared to teaching sacramentality and praxis, teaching doctrine may be judged to be less engaging, as was noted in the open-ended responses. RE teachers in teams with stronger CEP may have experienced the psychological benefits of this shared experience in teaching sacramentality, but may be challenged by the more prescriptive (and "tedious" according to one participant) nature of teaching doctrine.

5.4.5.2 Discussion of the results for SED and ITR.

ITR was found to have a small, but negative predictive value in the regression model with SED as the dependent variable ($B = -.14, p = <.001, SE = .07$). Similarly to CEP, the extent to which RE teachers believed students grow and learn in RE was inversely related to the teachers' belief in their capability to teach Catholic doctrine. The hypothesis that ITR will positively predict self-efficacy for teaching RE (SED) is not supported.

5.4.5.3 Discussion of results for SED and ITF.

The theoretical construct ITF was eliminated as a variable during the analysis, so the hypothesis that it would predict self-efficacy for teaching RE is not supported.

5.4.5.4 Discussion of results for SED and IS.

Teachers' intrinsic spirituality had a strong, statistically significant, negative contribution

to the regression variate for SED ($B = -.35, p = <.001, SE = .08$). The hypothesis that IS will predict SED is not supported. In this sample, the greater the extent to which RE teachers were motivated by their spirituality the less likely they were to have strong self-efficacy for teaching doctrine. As was noted in section 5.3.5, it may be the case that, for teachers with a weak intrinsic spiritual motivation, the areas of the RE curriculum that require them to give witness to spiritual concepts, either by teaching a sacramental understanding of God's presence, or by teaching students to act on these beliefs through prayer, worship, and outreach ministries, may seem more challenging to teach, compared to the mostly prescribed, doctrinal areas of curriculum. Teachers with weak IS may have made comparative judgements about the ease with which they approached these non-spiritual tasks (teaching doctrine), compared to the cognitive dissonance that may accompany tasks requiring them to teach students to develop values that they do not share or believe. Generally, the stronger teachers' intrinsic spirituality, the less likely they were to have strong SED, suggesting that doctrine is an area of curriculum that does not rely on the spiritual resources and spiritual motivations of the RE teacher. This cognition about doctrine may also be influenced by the damaged reputation and doctrinal authority of the Catholic Church, as noted earlier.

5.4.6 Multilevel regression analysis with SEP as the dependent variable.

The control and theoretical variables were introduced into the regression model in the same order and using the same principles as in the analysis of the previous dependent variables. Gender was introduced as the first predictor variable (Table 5.25). The regression indicated that gender was the strongest predictor of SEP in every iteration of the regression model. In the final model, gender had a coefficient of $-.50$ ($p < .001, SE = .14$). The negative coefficient indicates

the direction of the prediction, that is, that being female (which was coded ‘zero’ as a binary categorical variable), contributed significantly to the regression calculation. The next two most heavily weighted predictors were IS (.17, $p = .01$, $SE = .01$) and ITR (.17, $p = .04$, $SE = .08$). None of the level 2 observed or theoretical variables contributed to the regression in any of the models. Finally, RE teaching experience was a statistically significant predictor with a coefficient of .02 ($p = .01$, $SE = .01$).

The role of gender in the prediction of SEP is understood in terms of the broader effect of gender on the ‘helping professions’. As has already been established, there are more women than men teaching in Australian high schools (59% of teachers in 2015), and in this sample, females comprised 63.1% of the respondents. Further, some of the items included in the SEP scale were specifically about charity, social justice, and outreach, for example: “I can help students to develop solidarity with people suffering injustice”, “I can encourage students to act for charity”, and “I can encourage students to act for justice”. A sociological interpretation of this result draws on the structural inequality between the sexes and suggests, as Mastromatteo and Russo (2017, p. 143) have written, that “inequality increases the feelings of altruism, solidarity, and compassion, compelling more individuals to actually do something for the less fortunate”. Mills, Pedersen, and Grusec (1989) posited that altruism itself is a characteristic differentiated by sex, with females being generally more altruistic than males, although this may be explained more accurately as an effect of socialisation, rather than an innate, or evolutionary psychological entity. In researching the effect of gender on volunteering and philanthropy, Mesch, Rooney, Chin, and Steinberg (2002) summarised the literature which showed females rated higher on measures of empathy and altruism, were more likely to volunteer, and more likely to spend more

hours volunteering than men. When answering items in the current study which asked respondents to rate their capability to teach students to develop solidarity and act for justice, it is possible that females associated this aspect of their work in the RE classroom with their own desire to serve and care for others. It may be likely that these female RE teachers developed stronger SEP because of the way they attend to mastery and vicarious mastery, as well as the psychological arousal that occurs when one puts one's values into action at the service of others (Krause, Ironson, & Hill, 2018). Male RE teachers, being differently socialised, may not have attended to these experiences in the same way, or given them the same valence as females, thus influencing the attention they give to stimuli that may enhance their self-efficacy beliefs (e.g., social learning, verbal persuasion, or positive affective states).

IS and ITR are consistent predictors of self-efficacy for teaching both praxis and sacramentality. It is reasonable to argue that a motivating personal spirituality and a belief in students' ability to learn and grow in the subject are foundational for confidence and self-efficacy in teaching RE and that their importance is such that their effect transfers across the two self-efficacy domains (SES and SEP). Equally, a weak or non-motivating spirituality and the belief that student ability in RE is fixed, regardless of the efforts of the teacher, will likely lead to weaker self-efficacy beliefs across the two domains. SEP appears to be a significantly gendered aspect of RE teaching, which may lead to an enquiry about the role played by gender in teaching Catholic faith-in-action.

Table 5.24

Multilevel Regression Models with SEP as the Dependent Variable

		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Level 1	Loglikelihood function	-5600.49	-5557.47	-4545.38	-4830.82	-3638.51	-2604.98
Gender		-.42* (.15)	-.42* (.15)	-.48** (.15)		-.53*** (.15)	-.54*** (.15)
Catholic			.22 (.26)	.09 (.26)	.06 (.26)	.02 (.26)	.02 (.26)
No RE qualifications				-.47* (.24)	-.35 (.24)	-.32 (.22)	-.30 (.22)
Certificate of RE				-.11 (.19)	-.12 (.19)	-.06 (.18)	-.05 (.18)
Bachelors degree minor				-.09 (.27)	-.10 (.26)	-.08 (.25)	-.06 (.25)
Bachelors degree major				-.23 (.31)	-.24 (.31)	-.16 (.29)	-.15 (.29)
Masters degree or higher				.06 (.20)	.04 (.20)	.11 (.20)	.12 (.20)
Accredited to teach RE					.25 (.19)	.13 (.20)	.14 (.19)
RE teaching experience						.01** (.00)	.02** (.01)
RE experience in this school							.00 (.01)

Note: Standard errors are in parentheses. * $p < .05$ ** $p < .01$ *** $p < .001$

Table 5.24 Continued

Multilevel Regression Models with SEP as the Dependent Variable

		Model 7	Model 8	Model 9	Model 10	Model 11
Level 1	Loglikelihood function	-2102.08	-1738.09	-1681.60	-1687.28	-1578.43
Gender		-.53*** (.14)	-.50*** (.14)	-.49** (.15)	-.53*** (.15)	-.51** (.15)
Catholic		-.28 (.27)	-.28 (.25)	-.18 (.24)	-.20 (.24)	-.21 (.24)
No RE qualifications		-.21 (.18)	-.24 (.17)	-.19 (.17)	-.18 (.17)	-.19 (.17)
Certificate of RE		-.07 (.15)	-.12 (.15)	-.09 (.15)	-.08 (.15)	-.09 (.15)
Bachelors degree minor		.01 (.21)	-.03 (.22)	.02 (.22)	.05 (.23)	.02 (.22)
Bachelors degree major		-.08 (.25)	-.10 (.25)	-.03 (.21)	-.02 (.22)	-.04 (.22)
Masters degree or higher		.17 (.17)	.15 (.15)	.22 (.17)	.23 (.16)	.18 (.16)
Accredited to teach RE		-.01 (.18)	-.01 (.18)	.04 (.21)	.01 (.19)	.01 (.19)
RE teaching experience		.02** (.01)	.02** (.01)	.02* (.01)	.02* (.01)	.02* (.01)
RE experience in this school		-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)
Intrinsic spirituality		.24*** (.05)	.17* (.07)	.17* (.06)	.18* (.07)	.17* (.07)
Implicit theory of RE ability			.17* (.08)	.16* (.08)	.17* (.08)	.17* (.08)
Level 2						
Location				.11 (.11)	-	-
Coeducational					.26 (.15)	-
Team size						.01 (.01)

Note: Standard errors are in parentheses. * $p < .05$ ** $p < .01$ *** $p < .001$

Table 5.24 Continued

Multilevel Regression Models with SEP as the Dependent Variable

		Model 12	Model 13	Model 14	Model 15	Model 16	Model 17
Level 1	Loglikelihood function	-1646.30	-1590.34	-1480.41	-1429.00	-1569.05	-1703.25
Gender		-.50** (.15)	-.50** (.15)	-.52** (.16)	-.52** (.16)	-.52** (.16)	-.49** (.16)
Catholic		-.21 (.24)	-.21 (.24)	-.28 (.26)	-.28 (.26)	-.27 (.26)	-.18 (.23)
No RE qualifications		-.19 (.18)	-.19 (.17)	-.14 (.17)	-.14 (.17)	-.15 (.17)	-.16 (.17)
Certificate of RE		-.09 (.15)	-.09 (.15)	-.10 (.14)	-.10 (.14)	-.11 (.14)	-.08 (.15)
Bachelors degree minor		.01 (.23)	.01 (.23)	.02 (.22)	.02 (.22)	.03 (.22)	.02 (.22)
Bachelors degree major		-.05 (.22)	-.06 (.23)	-.06 (.22)	-.06 (.22)	-.04 (.22)	-.04 (.22)
Masters degree or higher		.19 (.17)	.19 (.16)	.18 (.18)	.17 (.18)	.19 (.18)	.19 (.16)
Accredited to teach RE		.02 (.20)	.02 (.20)	.08 (.20)	.07 (.20)	.07 (.21)	.02 (.21)
RE teaching experience		.02* (.01)	.02* (.01)	.02* (.01)	.02* (.01)	.02* (.01)	.02* (.01)
RE experience in this school		-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)
Intrinsic spirituality		.17* (.07)	.17* (.07)	.18* (.07)	.17* (.07)	.18* (.07)	.17* (.06)
Implicit theory of RE ability		.17* (.08)	.17* (.08)	.18* (.08)	.18* (.08)	.18* (.08)	.16* (.08)
Level 2							
Location		-	-	-	-	-	-
Coeducational		-	-	-	-	-	-
Team size		-	-	-	-	-	-
Meeting frequency		.00 (.05)	-	-	-	-	-
REC experience			.00 (.01)	-	-	-	-

ICSEA	.00 (.00)	-	-	-
NAPLAN aggregate		.00 (.00)	-	-
Attendance rate			.00 (.01)	-
CE for praxis				.12 (.15)

Note: Standard errors are in parentheses. * $p < .05$ ** $p < .01$ *** $p < .001$

Table 5.25

Final Multilevel Regression Model with SEP as the Dependent Variable

	Final Model
Level 1	
Loglikelihood function	-1738.09
Gender	-.50*** (.14)
Catholic	-.28 (.25)
No RE qualifications	-.24 (.17)
Certificate of RE	-.12 (.15)
Bachelors degree minor	-.03 (.22)
Bachelors degree major	-.10 (.25)
Masters degree or higher	.15 (.15)
Accredited to teach RE	-.01 (.18)
RE teaching experience	.02* (.01)
RE experience in this school	-.01 (.01)
Intrinsic spirituality	.17* (.07)
Implicit theory of RE ability	.17* (.08)
Level 2	
Location	-
Coeducational	-
Team size	-
Meeting frequency	-
REC experience	-
ICSEA	-
NAPLAN aggregate	-
Attendance rate	-
CE for praxis	-

Note: Standard errors are in parentheses. * $p < .05$ ** $p < .01$ *** $p < .001$

5.4.6.1 Discussion of the results for SEP and CEP.

CEP did not predict SEP in the regression model. The hypothesis that CEP will positively predict self-efficacy for teaching RE (SEP) is not supported. It is of interest that praxis, as a domain specific manifestation of collective efficacy (CEP), did not appear to contribute to the individual measure of self-efficacy in the same domain (SEP). The items at the individual unit of analysis and at the team unit of analysis were

similar, though not identical, for example, “The RE team in which I work can act for social justice” (CEP) and “In my RE class I can encourage students to act for justice” (SEP). The fact that CEP did not contribute to SEP may relate to differences in the unit of analysis, as they measure different phenomena at different levels. This result may also be an outcome of some RE teachers not believing that the group of RE teachers at their school were, in fact, a collective. This may have been because of a lack of interdependence and coordination among group members. Team interdependence and coordination were not measured in the study.

5.4.6.2 Discussion of the results of SEP and ITR.

ITR made statistically significant, small contribution to the regression variate for SEP ($B = .17, p = <.05, SE = .08$). The hypothesis that ITR would positively predict self-efficacy for teaching RE (SEP) is therefore supported. As was noted earlier, implicit theories teachers held about their students can be generalisable across domains of teaching and learning. Teachers with a growth theory of student ability will likely persist in behaviours which bring about learning for students. It follows that such persistence will lead to greater experience of and attention to mastery experiences with students, thus enhancing self-efficacy beliefs in the area of praxis.

5.4.6.3 Discussion of results of SEP and ITF.

The theoretical construct ITF was eliminated as a variable during the analysis, so the hypothesis that ITF will predict self-efficacy for teaching RE is not supported.

5.4.6.4 Discussion of results for SEP and IS.

Teachers' IS made a small, statistically significant contribution to the regression variate for SEP ($b = .17, p = <.05, SE = .07$). The hypothesis that IS will positively predict SEP is supported. Teachers who reported being more motivated by their

spirituality, that it operated as an end in itself, were generally more likely to report stronger SEP than those teachers whose spirituality was less of a prime motivator in their lives. It can be argued that IS motivated teachers to put their spirituality into action through charity, prayer and worship, and by teaching the positive, humanistic aspects of the Catholic religion. For those teachers for whom their spirituality was not as significant a source of personal motivation, putting faith into action may have been more challenging and may have led to less positive mastery experiences, thus affecting their self-efficacy for this aspect of RE teaching.

5.5 Summary of Quantitative Findings

This study posited and tested a theoretical framework for teacher self-efficacy for teaching RE. The quantitative phase of the research used correlational analysis, principal components analysis and multilevel regression analysis to examine the responses of 309 RE teachers in 42 schools, in order to explain the relationships between the variables. The findings are summarised in the list below:

- Self-efficacy for teaching RE is manifest in these data as SES, SED, and SES;
- Collective efficacy for teaching RE is manifest in these data as CEP;
- CEP is a statistically significant predictor of SES;
- IS is a statistically significant predictor of SES and SEP;
- ITR is a predictor of SES and SEP;
- Gender is a strong predictor of SEP;
- SED is negatively predicted by IS, ITR and RE teaching experience; and
- SES varies at the team level

5.6 Analysis of Open-ended Responses

The final section of the RE teacher survey was an optional open ended question: “Is there anything else you would like to add about your experience of being an RE teacher?”. Sixty-four respondents (20.7%) answered the question (male = 22, female = 42). Where quotes are included in the analysis, the respondent’s gender and years of experience teaching RE are indicated in parentheses. Appendix 7 reports responses to the open-ended question, and contains the coded RE teacher comments.

5.6.1 Thematic coding analysis.

Responses were subjected to thematic coding analysis. The purpose of performing thematic coding on the open-ended responses was to “identify meaningful themes in large amounts of text data” (Vaughn & Turner, 2016, p. 44) and classify them into categories. The analysis followed a seven-step process to validly classify the data. These steps were informed by Miles et al. (2014) and Vaughn and Turner (2016). The stages were:

1. Multiple readings of the data to develop understanding and clarify ambiguity, compile initial notes and reflections;
2. First cycle coding to provide meaningful labels for the individual comments;
3. Development of 17 first cycle categories with which to classify the 102 first-cycle codes;
4. Consultation with an experienced RE leader to conduct second cycle coding to derive 52 codes;

5. Development of second cycle categories to classify 52 codes into 15 categories;
6. Checking of the second cycle codes and categories against the raw data to assess goodness of fit; (Step 5 and 6 are iterative and repeated if necessary).
7. Generation of themes to account for the final data structure.

It was decided not to report the frequencies of individual codes because the purpose of this analysis is to reveal the thematic structure of RE teachers' ideas and experiences about teaching RE. Each of these steps is described in the following sections.

5.6.1.1 Initial readings of the data.

An initial reading of the 64 responses identified 267 comments about being an RE teacher. From the initial reading it was apparent from the length of responses that some respondents were eager to share their experience in detail. There were common themes and expressions as well as diversity of opinions and experience. Many of the respondents shared their feelings about being an RE teacher, using words like joy, privilege, blessing, exciting, or difficult, challenging, hard, and sad. Other respondents shared local narratives about RE leaders, or the impact of local conditions and influences (for example, one teacher warned that the data collected from his school would be adversely skewed by the impact of a crime gang in the school). The challenge of unchurched or non-Catholic students in RE classes was an issue referred to by some respondents. There was also a diversity of opinions about the purposes of RE and its relevance to students' learning and lives. Some respondents criticised aspects of the survey instrument. All responses used respectful language.

5.6.1.2 First cycle coding.

A cyclic coding method was applied to the data (Miles et al., 2014), in which codes were developed in an iterative process in order to decipher and consolidate meaning and to reveal a structure in the data. The first cycle coding generated 102 unique codes (see Appendix 7) generated from the words of the respondents themselves, using *in vivo* coding (Miles et al., 2014). In vivo coding seeks to preserve the integrity of the respondents' intentions and interpretations by using their own language to classify their responses.

5.6.1.3 Classification of first cycle codes.

The 102 first cycle codes were arranged into 17 categories (Table 5.27). The categories broadly covered the descriptions of types of RE teachers and their cognition about being an RE teacher, the culture of RE students, RE teachers' interpretation of their students' spirituality and attitudes to the subject, the conditions for RE teachers working in Catholic schools related to support, culture, and training/professional learning. There were, within most categories, variation in valence attached to RE teaching, with slightly more codes signifying negative impressions of the experience of RE teaching (37 positive, 39 negative, 25 neutral).

Table 5.26

First Cycle Code Categories of Open Ended Responses

Categories	Code Count
RE teacher types	8
RE teacher attitudes	12
RE teacher training	6
RE teacher support	4
RE teacher spirituality	11
Staff culture	4
RE team	4

Categories	Code Count
RE leadership	4
Student attitudes	5
Student spirituality	6
Impact on students' faith	6
Impact on students' life	2
RE content	9
RE objectives	5
RE pedagogy	7
God	4
Research method	4
Total codes	102

The categories generated by the first-cycle coding were broad. The nature of the open-ended question was such that the responses were diffuse. The initial categorisation process provided information about the range of topics covered by the responses and some indication of the most prevalent topics. The four categories with the highest code count were teacher attitudes, teacher spirituality, RE content, and teacher types. This suggests that the data would be useful in further exploring the cognition, motivation, and spirituality of RE teachers, and in illustrating the constructs in the theoretical framework.

5.6.1.4 Second cycle coding and classification.

To provide reliability, the researcher enlisted the service of an experienced RE leader from a Catholic school not included in the study and from a different state of Australia to the researcher. This was to mitigate for any localised assumptions the researcher might have held about the work of RE teachers, based on his experience in only one state. The first cycle codes and categorisation were checked against the raw data and additions, revisions, and deletions were made to the original codes and categories. Total codes were reduced to 51 and the categories were re-generated,

resulting in 15 categories (Appendix 7). These were checked against the original. Significantly, due to the diversity of the responses, some of the categories were best understood as contrasting concepts, such as enthusiastic/unenthusiastic, or Catholic/non-Catholic. Whilst this may appear to be a simplification of the qualitative data, it accurately captures the language used by respondents. In specific areas of the qualitative data, RE teachers were generally categorical in their choice of language to describe their experiences and their observations of other RE teachers. In representing some of these data as contrasting descriptors, the analytical structure captured the divergence in the responses. The categories of 'God' and 'Method' were eliminated from the final structure, because those categories did not offer meaningful insights into the experience of RE teachers as the context in which they were used were extraneous to the experience of teaching and learning in RE. 'RE impact on student faith' and 'RE impact on student life' were combined into the category 'Impact of RE', because the codes and the data to which they referred were describing a similar concept of how RE impacted on students.

A third cycle of coding was undertaken to refine the categories and reduce the number of codes used. In this third cycle, the categories 'Contrasting descriptors of RE teacher spirituality' and 'RE teacher spirituality' were combined into a single category 'Types of RE teacher spirituality' because the open-ended comments related to both these categories could be adequately categorised in terms of being either Catholic or non-Catholic, and spiritual or non-spiritual. This category reduction is one of the goals of the cyclic coding process (Miles et al., 2014). Several codes were eliminated in this round of coding because they were not sufficiently distinct from other codes and did not add to the descriptive power of the category they were in. The eliminated codes were:

‘want deeper understanding’ from the category ‘RE teacher training’ which was adequately accounted for by ‘teacher as learner’; ‘strong/weak’ from the category ‘RE leadership types’ because of insufficient data related to this code and because the code ‘capable/incompetent’ was judged to sufficiently capture this meaning; and ‘not just Bible learning’ in the category ‘RE Pedagogy’ because it was sufficiently captured by ‘need innovative activities’. The category ‘Staff culture’ was changed to ‘Local culture’ and the code ‘parents/community do not support RE’ was added to ‘Local culture’ to capture this hitherto unaddressed insight in several comments from RE teachers. Finally, the category ‘RE objectives’ was changed to ‘RE purposes’ in order to better reflect the broad and sometimes philosophical insights teachers gave about their understanding of the purpose of the RE curriculum. In light of this, three codes were moved out of ‘RE curriculum’ into ‘RE purpose’ as they better described the broad purposes of RE. The three codes were ‘should be academic only’, ‘balance academic and spiritual’, and ‘should be enfaithing’.

The final coding and categorisation of the open-ended responses is reported in Table 5.27. The final data structure comprises 44 codes in 14 categories.

Table 5.27

Final Coding and Categorisation of Open-ended Responses

Category
Code
RE teacher type
enthusiastic/unenthusiastic
vocational/coerced
collaborative/uncollaborative
contextually aware/irrelevant
trained/untrained
RE teacher attitudes

Category
Privileged Challenged Passionate
RE teacher training teacher as learner Qualifications
RE teacher support need greater support need better resources need supportive system need support for qualifications
RE teacher spirituality type Catholic / non-Catholic faith-filled / non-spiritual
Local culture need a supportive staff culture parents/community do not value RE
RE team type collaborative/uncollaborative dynamic/stagnant
RE leadership type capable/incompetent
Student attitudes apathetic and disengaged reject indoctrination engaged in life-centred learning
Student spirituality no faith questing unchurched
Impact of RE cannot/should not change student faith RE as invitation to faith relationship with Jesus is required positive impact on lives of students
RE curriculum assumes practising Catholic students dry/irrelevant teach contemporary ethics / values / issues restrictive curriculum

Category

RE purpose

transformation of students' lives
develop students' spirituality
should be academic only
balance academic and spiritual
should be enfaithing

RE pedagogy

want questioning and enquiry
want action learning / service
need innovative activities

5.6.2 Discussion of open-ended data.

The 64 responses to the open-ended question are a source of descriptive and explanatory data about the diverse experiences of RE teachers in Australian high schools. The contrasting descriptors, in particular, illustrate the degree to which these RE teachers experienced RE differently, with sometimes diametrically opposed views about the subject. The data draw a clear distinction between teachers who were personally, spiritually and professionally equipped to teach RE and those who were not. Generally, teachers described themselves in affirmative terms related to their spirituality and commitment and used more negative descriptors for their observations of some of their colleagues. These data also raise important questions about RE teachers' understanding of the broad purposes of the RE curriculum. The open-ended nature of the question did not direct respondents to answer in terms of the theoretical framework of the study. Therefore, there were no direct references to the constructs underpinning the research. It was possible, through analysis and interpretation, to make valid connections between the thematic structure revealed by the data analysis and the theoretical framework of the study.

5.6.2.1 Descriptors of RE teacher types.

Respondents described teachers as enthusiastic or unenthusiastic, for example “Without the motivation of the teachers the spiritual growth of the student never really gets past the crossword and colouring-in stage of their primary days” (M, 5), and “... there is often a lack of interest from some teachers who have been given an RE class they don't want” (F, 5). In terms of enthusiastic teachers, one respondent wrote “I work with many enthusiastic people” (F, 9), while others recorded their own enthusiasm for the subject. A teacher, reflecting on the increasing difficulty she was experiencing wrote “I am concerned with my lack of enthusiasm for the subject” (F, 11). One of the clear distinctions that emerged was the ‘vocational/coerced’ description of RE teachers. This dichotomy was understood in terms of the motivations that respondents appeared to identify in themselves and their colleagues: whether teachers sought RE teaching as a career goal, or whether they felt forced to teach RE against their preference. Several respondents identified those teachers who were teaching RE when it would not be their preference or who had been allocated an RE class “as a fill-in subject” (M, 5). One respondent wrote that in her school “[a] great percentage of teachers are not willing to teach this subject and will do anything they can to not have this as part of their allocation” (F, 17). She also observed “most staff and students see Religion as a subject they are forced to teach/study” (F, 17). Some teachers wrote about their belief that RE teaching serves a vocational purpose. Weddell (2017) defined Catholic vocation (not just as a priest or religious) as consciously and deliberately choosing to follow Christ. One teacher wrote “For me, my RE teaching is a REAL vocation” (F, 30). Other teachers expressed this vocational orientation to teaching RE, sharing beliefs such as “personal conviction is what drives the aspiring RE teacher in his/her mission” (M, 10).

The use of words like ‘mission’ placed this comment in the ‘vocational’ category.

Another teacher wrote that she was “asking God to guide and direct my efforts, as well as my heart, to support my students' own growth and learning” (F, 1). This appears to be an example of intrinsic spirituality. It also suggests that the teacher prays to God to assist her in her work.

There was a distinction between teachers who worked collaboratively, and those who chose to “do their own thing” (F, 10), with the implicit positive value placed on the former, who “enjoy supporting one another” (F, 3). There was also a clear difference between RE teachers who were contextually aware of the social milieu in which their students lived, and who worked to find culturally appropriate ways of teaching RE to teenagers who generally were not socialised Catholics and teachers who were perceived to be irrelevant by their students. One respondent wrote “we need to be non-judgemental, open, reflective, contemporary, fair and just in how we approach every lesson” (F, 23), indicating that RE programs should be contextualised for the students, in a social context that had not necessarily socialised the students to Catholicism. Teachers who did not or could not contextualise the learning, may well be challenged by the students about the subject’s relevance, as one teacher’s student asked “how is this important in my future career?” (F, 13).

These descriptors are consistent with positive self-efficacy beliefs of those RE teachers when they also had a vocational, collaborative, enthusiastic approach to RE. One wrote “I am concerned with my lack of enthusiasm for the subject. I feel so much more confident, happy and less anxious teaching my other method areas” (F, 11). In this example, the teacher’s apparent struggle to make the curriculum engaging for her students, (“I am finding the subject matter and topics tedious and arduous”), was likely

resulting in her having experienced poorer mastery experiences, and therefore self-efficacy for teaching RE. The comment also communicates the negative affect associated with this struggle. She described her efforts as “trying to appear positive” (F, 11), and that her experience in RE made her feel less “happy” and more anxious than when she taught other subjects. This is an example of how affective states and mastery experiences can have an impact on self-efficacy for teaching RE (Bandura, 1997).

5.6.2.2 Teacher attitudes.

Teacher attitudes to RE was the category with the most codes in the first cycle of coding which was reduced to three broad codes in the second cycle: ‘privileged’, ‘passionate’, and ‘challenging’. Some RE teachers expressed a view that they were privileged to be entrusted with a sacred duty, with one teacher reflecting that she was “proud to be an RE teacher and persevere every day to teach my students about the person of Jesus” (F, 10). Teachers used words like ‘blessed’ or ‘blessing’ and one wrote that “it can help shape their [students’] lives and it is the place where they have most of their questions”. In this sense, these teachers were defining RE teaching as a special case of teaching that brings with it a more profound responsibility and purpose than other subjects, because “you know that you are helping them find their own spiritual identity” (F, 2). These attitudes were generally expressed in positive, affective language to express pride and the sense of blessing. As discussed in 2.2.9.3, affective states have been shown to influence self-efficacy beliefs (Bandura, 1997), and some of these teachers apparently associated the positive affective language with their positive experiences of teaching RE to students.

Some teachers used the language of passion to describe their work in RE, for example, ‘joy’; ‘excitement’; ‘love’; ‘relish’; and ‘passionate’. One teacher wrote “It

has developed in me a passion to help others” (F, 3). Another described how RE was “my life passion and source for a lot of my reading, discussions and studies” (F, 40). Working with like-minded RE teachers appeared to amplify the passionate response of some teachers, for example, “I am excited and passionate about being a member of the RE team at my school” (F, 9). It is possible that this was evidence of positive affect that could influence self-efficacy for teaching RE. Some respondents also used language that suggested negative psychological arousal, as they faced the challenges of teaching RE, using words like ‘difficult’, ‘hard’, ‘struggle’, and ‘arduous’. One teacher reflected on the ‘increasing difficulty’ she found in making the learning relevant, whilst describing herself as feeling “so much more confident, happy and less anxious teaching my other method areas” (F, 11). Most teachers associated negative emotions with the challenges of teaching “tedious” content to disengaged students. Again, this negative arousal could affect self-efficacy for teaching RE.

5.6.2.3 Teacher training.

The lack of training of RE teachers was clearly an issue for a number of respondents. As has been discussed in 5.4.2.1, several RE teachers reflected on the impact of having teachers who were not prepared to teach RE, or who had been given a class as a fill-in subject. One teacher described a situation where there were no specialist teachers for RE in the school, saying “[a]ll RE teachers belong to another KLA [key learning area] and THEN the RE KLA” (M, 8). This respondent also wrote that he believed there is “a double standard with regard to non-Catholics teaching in Catholic Schools”. It may be speculated that this teacher was referring to the disparity between the regulations requiring RE teachers to be trained and qualified and the reality that many were not. Some RE teachers identified themselves as learners, and one

detailed the steps she had taken to undertake self-directed learning and study to equip herself for RE teaching, while others wrote of the challenges of accessing and funding post-graduate studies in RE. While there was some support for the importance of further study, one teacher claimed that “those with higher degrees usually can't teach it” (M, 35), and another teacher commenced a Masters in Theology, only to decide that the learning was “useless and as a result have chosen to not pursue further studies in Theology at this point in time” (F, 17). This category raises two issues: (a) the demand by some RE teachers that schools and systems support further qualifications in RE, especially in terms of funding the fees and (b) the efficacy of further qualifications to improve RE teachers’ classroom practice. One teacher made the link between his confidence and his ongoing education in RE at a tertiary level, writing “I have nearly completed my masters in religious education and that has given me confidence and further knowledge” (F, 2). Similarly, another teacher argued that “[w]hen we teach in the discipline in which we are trained in, we are confident in what we are doing” (F, 3) and that for some teachers, because they were teaching outside of the area in which they were trained, they felt less confident. The regression analysis, however, suggested that higher levels of qualification did not predict stronger self-efficacy beliefs for any of the three dependent variables SEP, SES, or SED.

5.6.2.4 RE teacher support.

Several respondents acknowledged that support for the RE teachers was lacking in several areas, with one teacher specifying a need to be supported “religiously, pastorally and professionally” (F, 10). Mention was made of the need for systems to support teachers seeking RE qualifications and to pay the costs on behalf of the teachers (see 5.4.2.3). Reflecting on the lack of personal conviction of some RE teachers, one

responded “as most staff don't have faith or spirituality it is up to the ADMIN [sic] to give the subject to the right people and support and prepare them properly” (F, 18). It is likely that by “ADMIN”, the respondent was referring to school leaders. One respondent was scathing of her Catholic system’s support for RE teachers, citing “hypocrisy and duplicity” (F, 7). There was no mention of teachers feeling well supported by the school or leaders.

5.6.2.5 Descriptors of RE teacher spirituality types.

As has been expressed in earlier sections, some respondents drew a distinction between Catholic and non-Catholic RE teachers, and between teachers who appeared to have high levels of intrinsic spirituality, expressed as a vocation, and those who did not. The RE teachers’ responses did not describe a continuum of intrinsic spirituality along which RE teachers may be located, although, theoretically, we know this to be the case (Hodge, 2003). Some respondents identified RE teachers in their school as “not of a faith background” (F, 18), and highlighted “a double standard with regard to non-Catholics teaching in Catholic Schools” (M, 8). The negative nature of some teachers’ observations of their colleagues can be summarised by a comment from one respondent who wrote that some of his colleagues had “no desire to understand or deliver with enthusiasm the content they are meant to teach” (M, 5). Whilst some RE teachers described some of their colleagues as spiritually unequipped to teach RE, they most often described themselves as having a strong and motivating personal faith. For example, one teacher described her aspirations to “be a faith-filled person who gently lives her life without being dogmatic in my approach. I am hoping my spirituality and faith shine through in all I do and say!” (F, 9). Another teacher wrote “I am a Catholic and have a strong faith in my religion” (M, 1), even though the question did not seek a

personal statement of faith commitment. There was an indication from some respondents that the process of teaching RE was part of the development of their own spirituality and a source of nourishment for their faith beyond their work as RE teachers, for example “I find it aids me in my own faith” (F, 5), and “I am growing 'spiritually' each day with my family, colleagues and students” (F, 10). Others, who acknowledged a personal faith, also noted the challenges of being explicit about this in their work as RE teachers, with one saying “I have found it difficult as a teacher to demonstrate your faith with the overwhelming presence of a culture removing itself from religious values” (M, 4).

5.6.2.6 Local culture.

RE teachers reflected on the impact of local school and parent culture on their work. A teacher wrote that “many staff who do not teach Religion tend to publicly devalue it as a subject” (F, 17). This comment appears to be a reflection on culture as she described the staff as generally unsupportive. She also asserted that school culture, “led by the staff, has a huge impact on how students perceive and approach the formal Religious Curriculum as well as engage in faith development experiences and mission work”. Several teachers noted the challenge of working with parents and families who had values that were in conflict with those inherent in the RE curriculum. One teacher noted “many parents do not support the RE staff as they see RE as a subject that isn't important” (F, 3), and another said “I believe you can't change a view of religion without changing the community view” (M, 1). This can be combined with the challenge of teaching students who have “almost no foundation of individual or family faith” (M, 5). Based on attribution theory (Weiner, 1985), such cultural influences outside teachers' control may have affected how teachers attributed their students'

success and contributed to their development of implicit theories about whether their students had the ability to grow and improve in their learning of RE (Dweck, 2002).

5.6.2.7 Descriptors of RE team types and RE leadership types.

Relatively few comments were made about the teams and leaders of RE. There were, however, sufficient data to propose some contrasting descriptors. Teachers of RE were categorised as collaborative or uncollaborative, usually in association with other descriptors about their vocational orientation (such as ‘committed’), their training, and preparation for the role and whether they were coerced into the teaching RE (see 5.4.2.1). Teams were also described as supportive and ‘of like-mind’ or as stagnant. Likewise, the only reference to RE leadership was the challenge facing RECs who had the task of “dealing with disillusioned or disinterested teachers in their department” (F, 3), and an REC who was “academically unqualified and had only primary school experience. He favoured a laissez-faire approach that lead [sic] to the faculty stagnating” (M, 11). The theoretical framework for this study does not include an examination of proxy efficacy, defined by Bray, Gyurcsik, Culos-Reed, Dawson, and Martin (2001) as “one’s confidence in the skills and abilities of a third party or parties to function effectively on one’s behalf” (p. 426). Belief in the capability of one’s REC, however, can be understood in terms of proxy efficacy, which is related to one’s self-efficacy. In this example, the RE teacher described the link between the poor mastery of the REC and the apparent impact on his work in the team. Although there is insufficient evidence to allow generalisation, it appears that these teachers listed a range of factors that impact on their experience (culture, parents, students, curriculum, etc.), but rarely mentioned the team in which they worked as a factor.

5.6.2.8 Student attitudes.

RE Teachers provided reflections on their students' attitudes including (but not only) labelling them as engaged or disengaged. Some mentioned a gap between the secular world in which the students were socialised and the RE curriculum. This was sometimes represented as students being "unaware" or disengaged from RE because "they believe it is dry and have [sic] no relevance to their lives" (M, 10). As was mentioned in section 5.4.2.6, teachers acknowledged impacts on students' attitudes that were beyond the control of the teacher, with one teacher explaining "student attitudes ... are heavily influenced by their upbringing and background (i.e. home and family life)" (F, 1). One teacher was very positive about the attitudes of his students and wrote "I have found that all of [the] students, who I have taught, to be interested in at least some of the topics covered. Many of them have spoken to me at the end of the year saying how much they have enjoyed the class" (M, 29). It can be speculated that positive encouragement from students enhanced some teachers' self-efficacy, as verbal persuasion and positive feedback have been shown to be sources of self-efficacy beliefs (Bandura, 1997).

5.6.2.9 Student spirituality.

While many responses referred to the spirituality of teachers, fewer respondents reflected explicitly on the spirituality of students. As was mentioned in 5.4.2.6, a lack of Catholic faith in the home and Catholic enculturation appeared to have had an impact on some teachers' abilities to deliver the curriculum. One teacher wrote "[m]any of the students are 'culturally' Catholic, not 'spiritually' Catholic" (M, 8). Another teacher described students as "the blind generation" (M, 1). Teachers were keen to nurture student spirituality and to encourage a questing approach to spiritual growth, such as the

teacher who described his responsibility “to help our young people to further develop a worldview of religion and understand and challenge their own worldview including their own faith beliefs” (F, 17). Questing spirituality was defined by Hyde (2008) as seeking “to explore authentic ways of connecting with self, others, the world, and with God” (p.32). This approach to RE allows for ambiguity and a multiplicity of views. A teacher wrote that a key step in this questing approach is to “acknowledge that faith is a journey and asking questions is very much a human activity” (F, 37), and another described how RE “allows students the time and space to think about things beyond their academic life” (M, 29). It is interesting to note that these nuanced, non-dogmatic reflections on RE teaching practice came from two very experienced teachers.

5.6.2.10 Impact of RE on students.

Although some respondents were of the view that RE could be a transformative influence in the lives of young people in terms of their “learning growth, self-awareness and spiritual development” (F, 1), there was disagreement about whether teachers were working to influence the faith of their students. Some RE teachers were firm in their belief that having an impact on a students’ faith was not the job of the RE teacher, with comments such as “I feel that RE classes should be based on academia and not on student faith” (F, 2), because it could discriminate against students from different religious backgrounds. One teacher wrote “it is not my place to change students’ faith in religion” (F, 20), especially if the students are not Catholic. There was concern among some respondents that students would likely reject a dogmatic, proselytising approach to religion and that more relational and life-centred approaches would effectively impact on students’ learning and lives. For example, one teacher wrote “I am approaching the RE course with the idea that RE will affect their everyday life” (M, 10), even though he

acknowledged the challenge of making it relevant and useful. Another teacher argued that RE is not conducive to faith development by writing “[a]s far as I’m concerned the last place a student is going to find Jesus is in a compulsory classroom with a zealot for a teacher” (M, 36). Others acknowledged that faith development is personal, yet a teacher still has influence. This was expressed by one respondent who wrote “I feel a good teacher does not influence students by their own opinions. I turn on the light for my students but I don't tell them what to see” (F, 3), and by another who wrote “I am happy to allow the Spirit to work at his own pace - I am not there to make the students develop their faith - My lessons provide an invitation to faith development” (M, 29). Likewise, this teacher saw the impact of RE as profound, writing “It is a true blessing and a privilege to be able to open the eyes and hearts of our students to the wonder and awe of our faith” (F, 17).

It appears from this analysis that, whether teachers accepted or rejected an enfaithing/evangelical approach to RE, they assumed this was the impact the RE curriculum was designed to have on students. This is relevant to section 5.4.2.13 about the purpose of RE and to the broader debate about whether RE serves an ecclesiastical purpose, an educational purpose, or both (Rossiter 2017).

5.6.2.11 RE curriculum.

This category includes a variety of opinions about what is taught in RE classes. Although there are significant similarities between the RE curricula of Australian states and territories, there are also differences in emphases on certain topics and themes from diocese to diocese (Rymarz, 2017).

Mention was made of the lack of relevance of some of the content of the curriculum, with comments like “I am finding the subject matter and topics tedious and

arduous” (F, 11). There was a desire expressed by some teachers for a more practical, life-centred curriculum. A teacher wrote “I believe they would learn 1000% more from being in the community than they ever could from reading from the bible” (M, 1). One teacher was critical of the assumptions in the curriculum resources which “assume all our students are good little Catholics who pray the rosary and go to mass every Sunday” (M, 36).

The responses also contained a depiction of the challenge of teaching a dense and detailed curriculum, with one teacher writing “[t]here is a lot of assumed knowledge and understanding [...] even for those with a strong faith and theological background” (F, 2). Two responses stated that the curriculum had to be followed and was restrictive, impacting on the student experience of RE, writing “[t]he curriculum that NSW allows, does not provide enough scope to allow for experience and exploring students’ faith in a non-academic sense” (M, 7), and “I have a Curriculum that must be followed” (M, 49).

5.6.2.12 RE pedagogy.

Respondents shared comments about the types of teaching and learning activities they wanted to explore in their practice. These included an opportunity for an ‘inquiry approach’ to RE topics, giving students agency over their learning. Inquiry learning is a pedagogy that requires students to pose complex questions and formulate responses to those questions based on investigation (Johnson & Cuevas, 2016). Other comments called for more opportunities for action learning which focuses on community work and service/social justice activities (praxis). These were expressed in comments such as “I enjoy some of the really deep conversations that I have with students and you know that you are helping them find their own spiritual identity” (F, 2), and “I’d structure religious education to include weekly seminars where guest speakers talk to our students about

appreciation in action, or our students do community service” (M, 1). A teacher argued the importance of “recognising divergent views and understandings even within the Catholic tradition” (F, 37) to stimulate critical enquiry. There was an expression of the need for teachers to be creative in order to be relevant and meet the needs of their students, with one teacher writing “Some teachers need to be more innovative with their choice of activities in order to appeal to younger students” (F, 5). Understanding the content of the RE curriculum and “how this translates to teaching in the classroom needs much greater attention” (F, 2), according to one teacher.

5.6.2.13 Purposes of RE.

Some respondents sought to define the evangelical objectives of RE in the respondents’ schools. A significant question raised was whether the purpose of RE should be to evangelise (to grow the faith of the students), to instruct (to provide an academic study of religion) or a combination of both. Two representative comments supporting the evangelising approach to RE are: “Enfaithing lessons are far more effective than rigorous academic ones” (M, 40), and “My focus is to try to bring kids into relationship with Jesus Christ alongside the RE curriculum” (M, 5). Alternatively, other respondents argued for an instructional, non-evangelical approach to the discipline of RE, writing “I feel that RE classes should be based on academia and not on student faith” (F, 2), and “I am not there to make the students develop their faith” (M, 29). Some of the respondents expressed a need for a synthesis of an evangelising and academic approach, explained by this teacher who wrote: “[w]e have a collective responsibility to help our young people to further develop a worldview of religion and understand and challenge their own worldview including their own faith beliefs” (F, 17) and described by another who wrote: “[t]he integration of faith and life as a 'whole'

rather than as two separate entities is essential for effective RE teaching” (M, 10).

Notwithstanding these positions, there was a description of the challenge of integrating academic content and spiritual lessons, expressed by one teacher: “[i]t is extremely difficult to balance the academic side of RE that we are expected to teach, and the spiritual side that I want students to experience” (M, 15).

In terms of the impact of RE, a teacher described the long-term effects that RE can have on students because they “last a lot longer than many other subject areas - for the better or the worse” (F, 23). Once again, the data captured some teachers’ sense of the profound nature of their work, for example, “I want the students to see that Christ showed us how to live and in the Catholic faith they can experience real peace and ways to solve the problems they will face - how to find a friend” (F, 1).

5.7 Discussion of Qualitative Analysis

Sixty-four respondents answered the optional open-ended question: “Is there anything else you would like to add about your experience of being and RE teacher?”. The responses were subjected to thematic coding analysis (Miles et al., 2014) in order to derive codes and categories. The analysis revealed a data structure covering 14 categories. Among the categories, three themes emerged that will be discussed in terms of the theoretical framework of this study: teacher attributes; the impact of RE on students; and the purposes of RE.

5.7.1 RE teacher attributes.

The data revealed disparate teacher descriptors: enthusiastic/unenthusiastic; Catholic/non-Catholic; vocational/coerced; trained/untrained; aware/unaware; spiritual/non-spiritual; and collaborative/uncollaborative. Whilst this structure emerged post-hoc, it is supported by the semantic and linguistic analysis of the responses. As was

noted in the analysis, respondents in all but one case described themselves as effective RE teachers and depicted some of their colleagues as less effective. The illustrations provided by the respondents made implicit links between the self-efficacy of RE teachers and their Catholic identity, spirituality, training, and vocational orientation to their work. Vocation was defined by Dik and Duffy (2007) as “an approach to a particular life role that is oriented toward demonstrating or deriving a sense of purpose or meaningfulness and that holds other-oriented values and goals as primary sources of motivation” (p.5). This understanding of vocation as a source of motivation may add a useful dimension to the framework, alongside intrinsic spirituality, as highly spiritually motivated RE teachers will likely be more able to see their work as part of their existential search for meaning. Measuring the vocational orientation of RE teachers and its relationship to self-efficacy for teaching RE in the three domains is a possible direction for future research.

The data also illustrated the effect of RE being taught by people who had been coerced into teaching RE. Teachers forced to teach the subject were judged by their colleagues to be less successful in meeting the goals of the curriculum. Likewise, teachers who were unenthusiastic, non-Catholic, or untrained had “no desire to understand or deliver with enthusiasm the content they are meant to teach” (M, 5). RE teachers, in their open-ended responses, were not unanimous in their belief that qualifications were directly linked to improved teaching practice. This ambivalence appeared to align with the regression analysis that showed qualifications did not predict SES or SEP and had a slight, inverse relationship to SED.

There was implicit support in the qualitative data for the IS construct, as teachers reflected on the need for an intrinsic motivation for teaching RE, as opposed to an

extrinsic motivation (such as being allocated a class without consultation). According to the respondents, IS was a necessary personal disposition for developing the personal and spiritual resources to help students explore and grow their own faith.

One of the key attributes of RE teachers reported in the open-ended statements were the affective states associated with teaching RE. Teachers used psycho-emotional language to describe being an RE teacher. These were categorised as passionate, privileged, or challenged and the statements often included exclamation marks and upper case for added emphasis. It was clear that these teachers intended to communicate their personal investment in, and reaction to, teaching RE and to express the affective impact of their experience as RE teachers. Such data were valuable in assessing the salience and sometimes the valence of the teachers' comments as they gave an insight into the psychological states of the teachers making the comments in relation to their work as RE teachers. As was noted in Section 5.4.2.2, these psycho-emotional expressions about being an RE teacher could be interpreted as indicating affective or arousal states that will likely be associated with the mastery experience (or lack of mastery experiences) in the domains of teaching RE, thereby reinforcing the self-efficacy beliefs about the teachers' capability in those domains. This is an important illustration of the operation of self-efficacy in the domains of teaching RE.

5.7.2 The impact of RE on students.

The qualitative responses treated the topic of impact on students in some detail, with some RE teachers expressing a belief that RE should and/or does have a profound impact on the worldview, the personal development, the Catholic socialisation, and the spirituality of students. Many teachers commented on the secular, sometimes anti-religious culture that the students live in and reflected on the challenges that this poses

to the RE teacher charged with communicating the beliefs and doctrines of the Catholic Church. One teacher said he believed “the last place a student is going to find Jesus is in a compulsory classroom with a zealot for a teacher” (M, 36).

Many RE teachers who commented on the impact RE had on students expressed a view that students can grow and develop their ability in RE, although this was contradicted by a small number of teachers who were less positive absent their own capabilities or the capabilities of other teachers to bring about this growth. This is broadly in line with the responses in the survey, where the mean score for ITR on the scale 0 to 6 scale was 5.05 ($SD = 1.12$). RE teachers in the sample generally had a strong growth theory about student ability in RE.

Students were described by their teachers as sometimes disengaged, but more often as questing (Batson et al., 2001). Many RE teachers also described the way they implemented an open-ended, non-judgemental, enquiry approach to RE and warned that a closed, proselytising or fundamentalist approach to the RE curriculum is counterproductive. This questing approach to RE supports the notion that spirituality is a “search for meaning” (Pargament, 2013c) and those teachers who had a strong intrinsic spirituality were likely to facilitate a searching approach with their students.

5.7.3 The purposes of RE.

The purposes of RE emerged as a theme expressed as a plural because of the diversity of beliefs teachers communicated about why they taught RE, and about what they believed were the curricular and ecclesiastic reasons for teaching RE in Catholic schools. This diversity of views ranged from believing RE should be a purely academic subject teaching students *about* religion to believing RE should *only* be about growing student faith and spirituality, and that academic instruction is not an effective way to do

this. There was an assumption made by some teachers that the ecclesiastic purpose of RE was out of touch with the experience of students in a secular culture.

Self-efficacy and collective efficacy are both predicated on the understanding that decisions about actions and efforts are directed towards a goal, or in the case of collective efficacy, a shared goal. The breadth of responses alluding to the purposes of RE indicate that there is not a strong consensus among this sample about the broad aims and goals of RE. This likely impacted on both self-efficacy and collective efficacy as teachers generally may have found it challenging to reconcile their own beliefs about the purpose of their work in the three domains of RE and their beliefs about the collective, curricular, or ecclesiastic purposes of RE. In this circumstance, RE teachers may not be able to create a self mental-model about their capabilities to achieve a goal in RE if their understanding of the goal is confused or if their own goal for their students is at odds with the collective, curricular, or ecclesiastic goals for their students. This observation suggests that goal clarity about the purpose of RE is a necessary condition for positive self-efficacy for teaching RE because its absence makes goal directed behaviour, particularly in a team, more challenging.

5.7.4 Summary of findings from the qualitative responses.

The study elicited 64 open-ended responses about being an RE teacher in a Catholic high school in Australia. The data were subjected to thematic analysis to derive codes, categories and themes. The themes that emerged in the responses to the open-ended questions broadly supported the main relationships identified in the regression analysis, specifically, the relationship between RE teachers' intrinsic spirituality and their self-efficacy for teaching RE. The data also illustrated the problematic nature of teachers employed to teach RE when they were not adequately trained, when it was not

their choice, or when they were not Catholic. Finally, the qualitative data described the complexity of teaching RE to a largely secularised student population in Catholic schools and the impact that this complexity had on the experience of these RE teachers.

5.8 Research Questions

The analysis comprised both independent variables (IS, ITR, CEP), independent control variables at level 1 (gender, religion, qualifications, RE experience), and independent control variables at level 2 (team size, frequency of meetings, NAPLAN performance, ICSEA, attendance and geographic region). In addition to acting as statistical controls, the control variables were tested for statistical significance, providing some answers to research questions.

What are the differences, if any, between categorical variables at level 1 (gender, Catholic or non-Catholic, and qualifications) for self-efficacy for teaching RE?

Females, generally, had statistically significantly higher SEP (Figure 13). As was noted in section 5.3.6, this is consistent with the differences found by researchers who have examined gender and religiosity and gender and helping behaviours (Hogg, 2018; Mesch et al., 2002). These researchers found that females generally scored higher on altruism and empathy, and generally spent more time than males in volunteering. Praxis, which is concerned with teaching students to be other-centred and to put a belief in universal human dignity into practice through social action, likely draws on empathy and altruism. Further, such actions are often associated with positive affective states, which can enhance self-efficacy beliefs (Bandura, 1997). The research reported here found that female RE teachers generally were more likely to have higher self-efficacy

for praxis than males as shown in Figure 13.

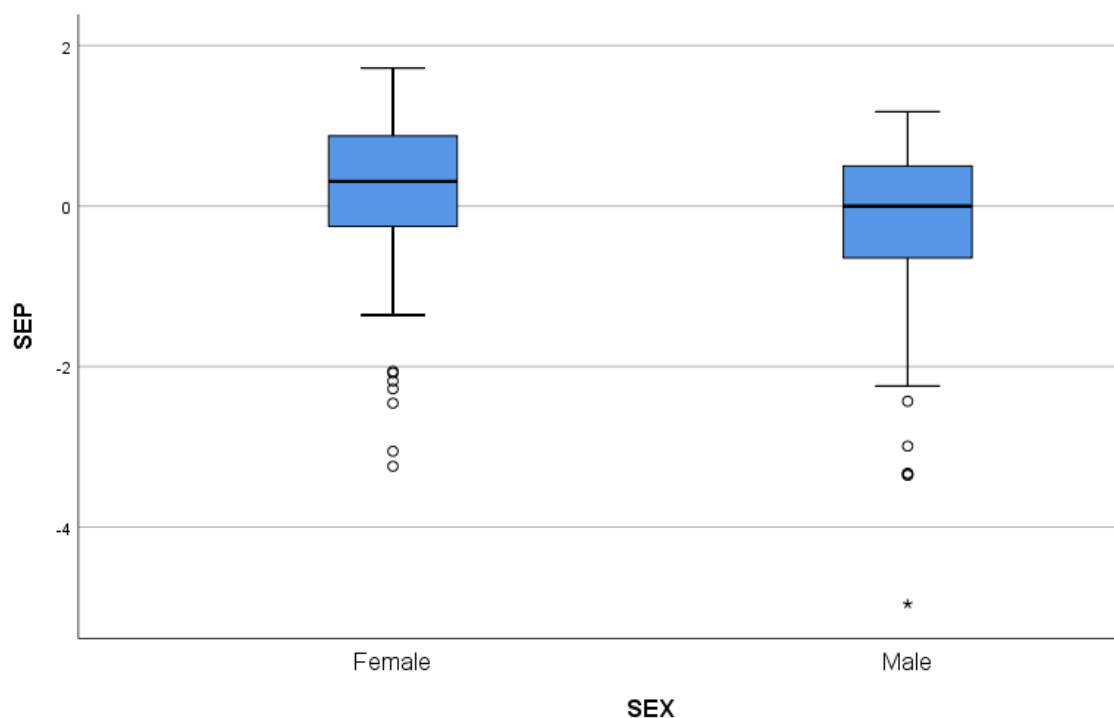


Figure 13. Boxplot Comparison of SEP Means of Females and Males.

In the final regression models for SES, SED and SEP, qualification was not statistically significant. In earlier regression models of SES and SED, before the introduction of the IS, IT, and CEP, qualifications appeared to play a role in predicting self-efficacy. RE qualifications was displaced in the model by IS, ITR and CEP. To test if there were statistically significant differences between team in SES and SED at various qualification levels, a Scheffe test was conducted. As was reported in Section 5.3.5, a statistically significant difference was found between teams for SED in the categories “no RE qualifications” and “Masters Degree in RE or above”. Generally, in relation to SED, teachers with a Masters degree in RE were less likely to have strong self-efficacy for teaching doctrine compared to those RE teachers who had no qualifications at all. One possible explanation of the overestimation of capability in novices is the Dunning-Kruger effect (Dunning, 2011) which argues that novices and

individuals performing in the bottom quartile of a population are more likely to overestimate their own performance. It may be the case that the teachers in this sample with lower levels of RE qualifications over-estimated their ability and competence in RE than those with higher levels of RE qualifications. RE qualifications did not predict SES or SEP.

There were no statistically significant differences in any of the three regression analyses between Catholics and non-Catholics for self-efficacy for teaching RE.

Is there a relationship between any of the continuous variables at Level 1 (experience in RE and experience in current school) and self-efficacy for teaching RE?

The regression analyses of SES and SEP revealed no statistically significant relationship with teaching experience. There was a small, but statistically significant negative relationship between RE teaching experience and SED. As discussed in Section 5.3.2.5, it is speculated that relatively inexperienced teachers may have had stronger, and perhaps unrealistic beliefs about their capability to teach the prescribed content of Catholic doctrine when compared to teaching complex, faith-based lessons about Catholic praxis and sacramentality.

There was no statistically significant relationship between years of experience in the current RE team and any of SES, SED, and SEP.

What are the differences, if any, between Level 2 categorical variables (Location, Co-educational or single sex) and self-efficacy for teaching RE?

There were no statistically significant differences between different locations of schools (metropolitan, regional, remote) and self-efficacy for teaching RE, or between single-sex and co-educational schools.

Is there a significant relationship between any of the continuous variables at

Level 2 (team size, meeting frequency, REC experience, NAPLAN aggregate, ICSEA, and attendance rate) and self-efficacy for teaching RE?

Team size, meeting frequency, REC experience, NAPLAN aggregate, ICSEA, and attendance were not related to SES, SED, or SEP. That school level variables did not predict self-efficacy is interesting as it could be argued that perceived self-efficacy would be stronger in high performing, educationally advantaged schools because positive mastery and the affective states such mastery can generate would be more readily available.

5.9 Conclusion

In this chapter the method of the quantitative study was explained, followed by a description of the analytical methods applied. These included principal components analysis and multilevel regression analysis. The quantitative results were discussed with reference to the theoretical framework. Each of the hypotheses posited in the framework chapter were reported on in light of the results. The quantitative findings were then summarised. Next, the qualitative findings were discussed and their value in illustrating some aspects of the theoretical framework was assessed and presented, then the findings of the qualitative analysis were summarised. Finally, the research questions were discussed with reference to the regression analyses.

6. CONCLUSIONS

6.1 Introduction

The purpose of this research was to investigate the self-efficacy beliefs of RE teachers in Australian Catholic high schools and to examine relationships between individual and team level phenomena and the beliefs of RE teachers. A number of hypotheses were developed and tested.

The purpose of this chapter is to present conclusions. First, the limitations of the research are acknowledged. Second, the hypotheses are revisited and a revised theoretical framework is presented based on the findings of this research. Third, implications of this research for theory, policy, practice, and future research are discussed.

6.2 Limitations of this research

An important methodological limitation is related to the nature of cross-sectional research carried out with a sample from a larger population. The data gathered at a point in time represent the sample only at that point in time, limiting the generalisability of the research and the ability to draw causal conclusions. Further, the study of a sample of RE teachers and Catholic high schools does not warrant generalising findings to the total population of RE teachers in Australian Catholic high schools. It can, however, provide researchers and practitioners with suggestions for future studies or indications for possible interventions and programs of professional development for RE teachers, which will be discussed later.

This study hypothesised that collective efficacy for teaching RE would predict self-efficacy of individual RE teachers for teaching RE. The analyses partitioned level 1 and level 2 variance. Participants in the 42 RE teams were studied without ascertaining if they were, in fact, collectives with shared goals (Cohen & Bailey, 1997). The

limitation is that there is an untested, underlying assumption that the RE curriculum was delivered by teams. However, the data suggest that there was a real phenomenon of collective efficacy for teaching RE that was measurable and variable across schools. The research proceeded on the assumption that RE teachers working in the same school were a team.

Another methodological limitation is the self-report nature of the data. In self-report surveys, there is no way of assessing the degree to which respondents are conscientious in their responses. This research asked teachers to assign a score to their self-efficacy for teaching RE and it is not possible to determine if individuals accurately and honestly estimated their self-efficacy for teaching RE. However, self-report methodology for measuring and examining self-efficacy is widely used and validated (Appelbaum & Hare, 1996; Bandura, 1997; Curda & Smith, 2002; Karbasi, 2016; Lee, 1994; Moritz, Feltz, Fahrback, & Mack, 2000; Schunk, 1991; Marjolein Zee & Helma M. Y. Koomen, 2016).

A further limitation is the non-response rate of survey items. The survey design allowed participants to opt out of the survey or not to answer all the questions. This resulted in missing data. Statistical processes were implemented to account for these missing responses without lessening the usefulness of the data.

Snijders and Bosker (1999) have shown that multilevel regression analysis is sensitive to sample size at both level one and level two. In this study, the number of RE teams ($n = 42$) and the number of RE teachers ($n = 309$) met the threshold suggested by Hair et al. (2010). A larger sample, however, may have been desirable.

A further methodological limitation is that while regression analysis can ascertain how independent variables can ‘predict’ dependent variables, it is not possible

to assign a causal direction to the relationships between variables (Hair et al., 2010).

6.3 Hypotheses Revisited

Although discussed in Chapter 5, the hypotheses are revisited below due to the emergence of a three-dimensional model of self-efficacy for teaching RE (SES, SED, SEP). In the following section, the original hypotheses are restated.

Hypothesis 1: Collective efficacy for teaching RE will positively predict self-efficacy for teaching RE.

Hypothesis 1.1: Collective efficacy for praxis will positively predict self-efficacy for sacramentality – supported;

Hypothesis 1.2: Collective efficacy for praxis will positively predict self-efficacy for doctrine – not supported.

Hypothesis 1.3: Collective efficacy for praxis will positively predict self-efficacy for praxis – not supported.

Hypothesis 2: Teacher implicit theories about student RE ability will predict teacher self-efficacy for teaching RE.

Hypothesis 2.1: Implicit theories about student ability in RE will positively predict self-efficacy for sacramentality – supported;

Hypothesis 2.2: Implicit theories about student ability in RE will positively predict self-efficacy for doctrine – not supported.

Hypothesis 2.3: Implicit theories about student ability in RE will positively predict self-efficacy for praxis – supported.

Hypothesis 4: Teacher intrinsic spirituality will positively predict self-efficacy for teaching RE.

Hypothesis 4.1: Intrinsic spirituality will positively predict self-efficacy for sacramentality – supported;

Hypothesis 3.2: Intrinsic spirituality will positively predict self-efficacy for doctrine – not supported.

Hypothesis 3.3 Intrinsic spirituality will positively predict self-efficacy for praxis – supported.

6.4 Revised Framework

The emergence of three dimensions of self-efficacy for teaching RE required the production of three explanatory schematics: Figures 14, 15, and 16. The three schematics indicate the predictors of the three dimensions of self-efficacy. It must be noted that the predictive power of a variable identified using regression analysis does not assert a causal relation. Rather, the presence of the input variable (or variables in combination) predicts the presence of the outcome variable. The third schematic (Figure 16), which depicts the input variables for self-efficacy for doctrine, uses red arrows, indicating that the regression relationship is negative. In other words, a decrease in the input variable predicted an increase in the outcome variable.

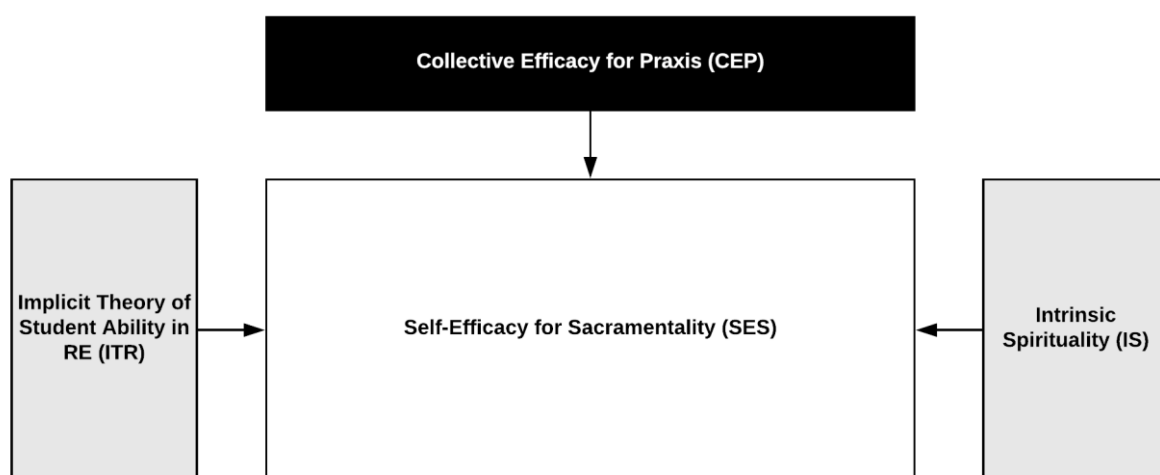


Figure 14. Revised framework for self-efficacy for sacramentality.

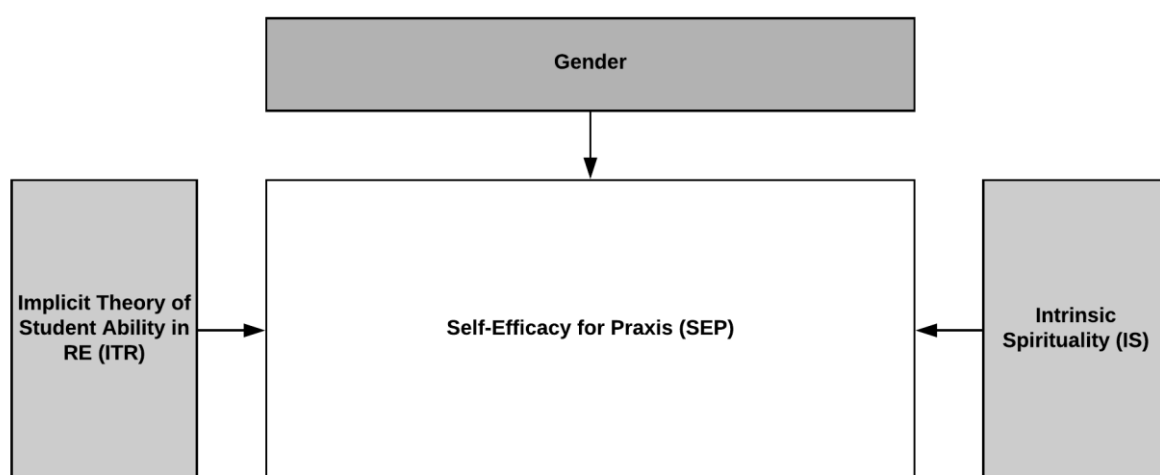


Figure 15. Revised framework for self-efficacy for praxis.

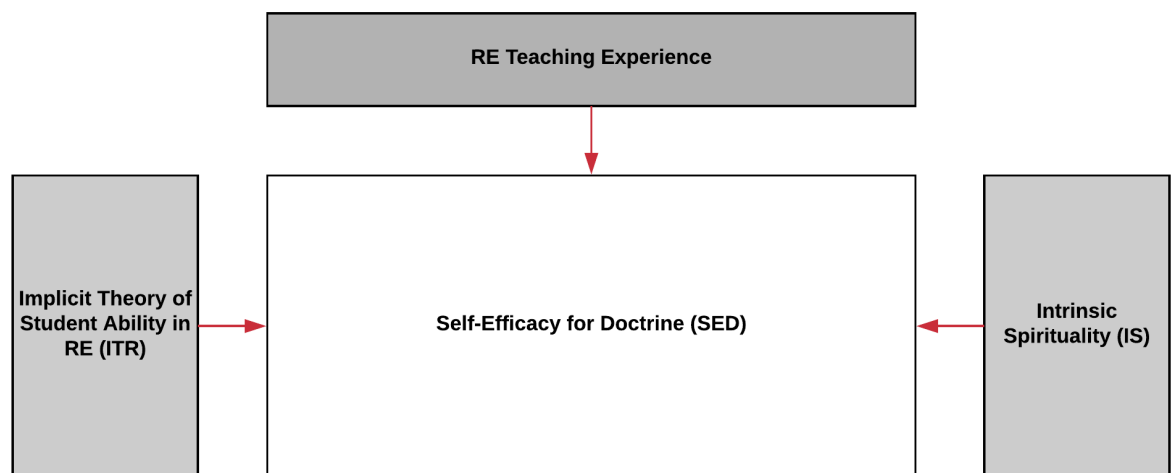


Figure 16. Revised framework for self-efficacy for praxis. Red arrow denotes a negative relationship.

6.5 Implications for Theory

The principal contribution of this study is the development of an empirically derived framework for understanding the types of self-efficacy for teaching RE in Australian high schools. The implications of this framework are described below.

6.5.1 Three constructs of self-efficacy.

SCT is widely accepted as a robust psychological theory with which to examine human behaviour and motivation in their environmental contexts (Bandura, 1986, 1989, 1999; Grusec, 1992; Paletz & Schunn, 2010; Wood & Bandura, 1989). Self-efficacy theory, situated within SCT, has been applied to a wide range of human endeavours and domains. Various aspects of school teaching have been examined using self-efficacy theory (Atta, Ahmad, Ahmed, & Ali, 2012; Bandura, 1997; Block et al., 2013; Caprara et al., 2006; Curda & Smith, 2002; Dellinger et al., 2008; Egyed & Short, 2006; Erdem & Demirel, 2007; Erford, Duncan, & Savin-Murphy, 2010; Karbasi, 2016; Kiray, 2016; Klassen & Chiu, 2010; Klassen & Tze, 2014; Long & Moore, 2008; Pinar, Turhan,

Mehmet, & Fikret, 2013; Pisa, 2012; Raudenbush, Rowan, & Cheong, 1992; Schumacher, 2009; Sepahmansour & Bayat, 2011; Skaalvik & Skaalvik, 2007; Tuchman & Isaacs, 2011; M. Zee & Helma M. Y. Koomen, 2016), however, the self-efficacy of RE teachers is a new field of study. A review of the extant literature did not yield any published work examining the self-efficacy of RE teachers. As was noted earlier, self-efficacy is domain specific (Bandura, 1997). The theoretical framework on which this study was based posited a single construct for self-efficacy for teaching RE. As a result of analysis, three dimensions were identified which better describe the ways these RE teachers developed beliefs about their capabilities in the areas of teaching sacramentality, doctrine, and praxis. The application of self-efficacy theory to RE teaching, concerned as it is with the ‘search for the sacred’, is an important contribution because it is a unique contribution to the field of social cognitive theory and describes the intersection of self-efficacy and spirituality as motivators. This research also establishes self-efficacy for teaching RE as a unique domain of self-efficacy within teaching.

This multidimensional understanding of RE teachers’ beliefs has also given rise to three new self-efficacy scales.

6.5.2 Self-efficacy for sacramentality.

The application of self-efficacy theory to the work of RE teachers, particularly in the domain of teaching sacramentality, is a unique contribution to the field of SCT and the psychology of religion. This aspect of RE, which treats those topics of the Catholic religion that may be described as numinous and mystical, likely challenges RE teachers because the dominant culture of Australian school students is becoming more secular and students are increasingly less likely to participate in Catholic formation and

worship outside of school (Dixon et al., 2013). It is not surprising that the regression analysis revealed that SES is predicted by intrinsic spirituality and an implicit theory of RE ability that suggests students can grow and develop in RE with effort and instruction. The mean of the raw responses to the SES items was lower than the means for the other two domains of self-efficacy for teaching RE, further indicating that, generally, teachers in this study indicated they had weaker self-efficacy for teaching sacramentality than for teaching doctrine or praxis. This further supports the assertion that teachers may find teaching the mystical and numinous aspects of the Catholic religion challenging and thus they may require particular preparation and support. The other contributing variable, collective efficacy for praxis, indicated the importance of the RE team as a collective, supporting the self-efficacy beliefs of the individual teachers. The examination of intrinsic spirituality in relation to self-efficacy for teaching RE in general is a theoretical contribution.

6.5.3 Self-efficacy for doctrine.

Whilst self-efficacy for doctrine (SED) emerged as a variable and a component of self-efficacy for teaching RE, the regression resulted in curious negative relationships with intrinsic spirituality and implicit theories of student ability in RE. Some categories of RE teacher qualifications also suggested a negative relationship. The data suggest that these teachers' beliefs about their capability to teach the doctrines of the Catholic Church are complex and may be affected by a range of other environmental variables not included in this study. The mean of the SED items was slightly higher than SES, but lower than for praxis. Considering that a substantial proportion of teachers in this study did not have any qualifications for teaching RE, and that this area of the curriculum is filled with historical and theological content to be mastered by students, it is not

surprising that the SED construct which is concerned with RE teachers' beliefs about their capabilities in the area of doctrine, is not clearly explained by the data in this study.

6.4.4 Self-efficacy for praxis.

This variable emerged as a domain of RE teachers' self-efficacy beliefs related to teaching students how to put faith and doctrine into action. It was apparent that intrinsic spirituality and implicit theories of student ability in RE once again predicted (to a degree) self-efficacy for praxis, indicating the importance of these two variables in the formation of RE teachers and their self-efficacy beliefs. The study also revealed that female RE teachers were more likely to have stronger self-efficacy for praxis than male RE teachers, echoing similar research into the relationships between gender and religion, helping, and altruism (Mesch et al., 2002). Further, the mean of the raw responses for the SEP items was higher than for SES and SED, indicating that, generally, teachers reported stronger self-efficacy beliefs about teaching praxis than the other two domains of self-efficacy for teaching RE.

6.4.5 Other theoretical contributions.

The implicit theories teachers hold about their students' ability in RE, a new psychological construct, was found to be an important predictor of the self-efficacy of the RE teachers (SES and SEP). Implicit theories have been applied across a range of human activities and have been particularly useful in investigating student learning (Jonsson et al., 2012; Mascaret, Roussel, & Cury, 2015; Rattan et al., 2012; Sarrazin, Leroy, Bressoux, Sarrazin, & Trouilloud, 2007). A review of the literature did not yield published research in this specific domain of implicit theories.

Intrinsic spirituality was applied to the work of RE teachers. It was related to

self-efficacy for teaching RE in two domains (SES and SEP) and negatively related to SED. Further, the qualitative data suggested that some teachers readily made the connection between the intrinsic spirituality of RE teachers and their beliefs in their capabilities to teach RE. This appears to be the first time the IS scale has been applied to a sample of RE teachers, the majority of whom had some level of theological or religious training and, likely, a degree of commitment to their Catholic religion. That 8.4% of the sample were not Catholic suggests that schools and systems should seriously consider their approach to the recruitment of Catholic RE teachers with strong intrinsic spirituality. This will be addressed in the following sections.

6.6 Implications for Policy

It is the policy of each Catholic diocese in Australia that RE teachers in Catholic high schools: (a) be Catholic, and (b) hold tertiary qualifications in RE, in order to be accredited by the Diocese to teach RE (e.g., <http://www.parra.catholic.edu.au/re-accreditation>). This study found that (a) 8.4% of the sample were not Catholic, more than half of whom were unqualified and (b) 28.2% of the entire sample held no qualifications to teach RE. Whilst the intent of the policy may be sound, this research indicates that it has not been implemented with consistency in the schools in this study, with likely consequences for the self-efficacy for teaching RE of the non-Catholic and untrained teachers and the learning of their students. The number of untrained or non-Catholic teachers teaching RE may be explained by the general decline in the religious adherence of the Australian population (Australian Bureau of Statistics, 2017a) and by the distinct challenges, both personal and professional, of teaching RE as described by the qualitative data. The employment of non-Catholic and untrained teachers may be necessary when schools do not have enough specialist teachers, and this is more likely

in regional or remote areas of Australia where teacher supply generally is a concern. These teachers, however, are likely not to experience the necessary positive mastery to develop strong self-efficacy beliefs for RE. Dioceses should consider a policy whereby each school must have a proportion of specialist RE teachers, for whom RE is their main or sole teaching area. Further, it may become necessary for diocesan authorities to support schools in the recruitment and employment of suitably qualified RE teachers as specialists. In doing so, the dioceses and local school leaders could concentrate their support and professional learning efforts on a smaller number of appropriately qualified RE teachers. If dioceses were to develop specialist RE teams in schools where teachers are primarily occupied in the teaching of RE they will be more likely to cooperate and coordinate their efforts, which may lead to the development of strong collective efficacy for teaching RE. An effectively enforced policy regarding specialist teachers would also increase the likelihood of teachers experiencing mastery and witnessing the mastery of others, thus enhancing self-efficacy for teaching RE.

The authoritative purpose of Catholic RE must be made clear to RE teachers. The qualitative data suggested a lack of clarity among some of the RE teachers about the purposes and aims of religious education in Australian Catholic high schools. Prior to the publication of the *Religious Education in Australian Catholic Schools – Framing Paper* (2018b), there was not a nationally recognised, consistent statement from the Catholic Church about the work and expectations of RE teachers. The ambiguity of the goals of RE, reflected in the qualitative data, has likely had a deleterious effect on teachers' self-efficacy for teaching RE, as goal clarity is important for goal directed behaviours and for beliefs about one's capabilities to achieve goals. In an experimental study, Anderson and Stritch (2016) found that when participants had low goal clarity,

but were primed to believe that the task was very significant, their performance was diminished. Some RE teachers expressed the view that the task of teaching RE was profoundly significant, although the specific goals of RE were quite unclear. The goals of RE are clearly articulated in the *NCEC Religious Education in Australian Catholic Schools – Framing Paper* (National Catholic Education Commission, 2018b) and are, therefore, authorised by the Australian Catholic Bishops’ Conference, the peak Catholic Authority in Australia. Dioceses, school principals, and leaders of RE should communicate and reinforce the clarification of the aims of RE as a principal element of RE policy, so that RE teachers can focus their attention and effort on what is actually required of them. By ensuring RE teachers have an explicit understanding of the purposes of their work, through professional learning, accreditation, and statements from RE leaders, RE teachers’ beliefs about their capabilities likely will be related to the actual demands of the role. For example, Bishops and heads of religious education at a Diocesan level should take opportunities to clearly articulate the parameters of the work of RE teachers defined by the Framing Paper. Pre-service RE teachers should be required to engage with the Framing Paper as a core part of their preparation. Current RE teachers and RECs should be given the time and resources to evaluate their existing practices and objectives in light of the published goals in the Framing Paper.

6.7 Implications for Practice

Both the quantitative and qualitative data indicate that RE qualifications do not predict self-efficacy for teaching RE. It is reasonable to suggest that training should equip teachers in such a way that they more readily achieve mastery, however, these data do not support this. The Catholic Church should investigate the effectiveness of teacher preparation for teaching as it links to self-efficacy for teaching RE. Catholic

universities should adopt a psychologically informed approach to teacher training to provide the doctrinal knowledge, strategies for praxis, and Catholic formation for sacramentality to maximise the opportunities for RE teachers to experience enhanced self-efficacy beliefs in each of the three areas: SES, SED, and SEP. Teacher pre-service preparation appears to be an area of significant need, especially in the way it encourages the intrinsic spirituality of RE teachers.

In terms of ongoing professional learning, RECs, Catholic school leadership teams, and Catholic education systems in Australia may be able to use these research findings to develop structures and programs to enhance the self-efficacy beliefs of RE teachers by focusing on strategies that are known to enhance domain-specific positive self-efficacy (mastery, vicarious learning, persuasion, and affective states). A psychologically informed program of development in self-efficacy and intrinsic spirituality, accompanied by the IS and SE scales to measure the effect of any programs, could provide enhancements to the self-efficacy of RE teachers in at least two of the domains of their practice (SES and SEP). In the experience of this researcher, psychologically informed professional learning has not been a feature of programs for the development of RE teachers in Australia. In the researcher's Catholic high school in NSW, RE teachers have undertaken development using the results of this research. Baseline data were collected from 15 teachers using the three self-efficacy for teaching RE scales. Data were subsequently collected using the three scales again and showed a statistically significant improvement in self-efficacy beliefs in the three domains. Such evidence-based interventions may prove beneficial to self-efficacy for teaching RE of teachers in other Catholic high schools. It is a recommendation of this research that all Catholic high schools institute a program of professional development and Catholic

formation to enhance self-efficacy for teaching RE, and for schools to apply the self-efficacy for teaching RE scales as a means to measure the impact of interventions for self-efficacy for teaching RE over time within RE teams.

Intrinsic spirituality emerged as a strong predictor of SES and SEP. An assessment of the IS of candidates applying for employment as RE teachers and RE leaders should be an important consideration for employers. This should become a feature of recruitment for RE teachers and form part of an employment policy for teachers of RE. It should also be a component of the development of RECs so that they can identify professional learning that contributes to the development of IS and may lead to enhanced SES and SEP.

The self-efficacy beliefs of RE teachers in this study have likely been affected by the results of the Royal Commission into Institutional Responses to Child Sexual Abuse (McPhillips, 2018) because RE teachers may find themselves having to defend the authority of the Catholic Church in an era marked by a lack of trust. In this environment of distrust, teachers may need to expend more effort, find it more difficult to achieve mastery, and may not readily experience the positive psychological arousal that helps to form self-efficacy beliefs. This is likely more difficult for the 28.2% of RE teachers without qualifications and the 8.4% of RE teachers who are not Catholic. The anomalous findings related to self-efficacy for doctrine provide an indication of the complexity of teaching Catholic doctrine to adolescents of whom only 5% name school as a source of spiritual support and development (Roehlkepartain et al., 2008). Some respondents wrote of being “the face of the Church” to their students, thus carrying responsibility for expressing and defending the teachings of the Church. The Australian Government established that public commentary about teachers generally assumes a

deficit (Standing Committee on Employment, 2019), so the challenges of teaching in a society where religious adherence is in decline and amidst the reputational damage resulting from the Royal Commission into Institutional Responses to Child Sexual Abuse will likely compound the potential challenges for teachers of RE, thus potentially impacting on their self-efficacy. Catholic leaders, principals, and RECs should support RE teachers in this challenging environment by providing psychological assistance when necessary and by supporting and affirming the work of RE teachers in public discourse.

6.8 Implications for Future Research

Based on the implications for practice, above, future academic work in this field could take the form of interventional research, with the aims of improving self-efficacy of RE teachers, and the collective efficacy of RE teams.

6.8.1 Replicate the study with a new sample.

The revised theoretical framework could be studied with a new, larger sample. A larger sample could also allow for structural equation modelling, which could provide more detailed insights. It also is recommended that this research be conducted with Australian Catholic primary school teachers, who are usually responsible for delivering the core curriculum to their students, including RE, so as to assess the generalisability of the revised theoretical framework. Further, the study could be replicated in other countries where Catholic RE (or its equivalent) is taught by trained Catholic teachers in an 'enfaithing' model.

6.8.2 Investigate the antecedents of IS.

While IS has been established as a robust psychological construct (Hafizi, Koenig, & Khalifa, 2015; Hodge, 2003, 2012; Hodge, Zidan, & Husain, 2015;

Schofield, Baker, Staples, & Sheffield, 2016), more research is needed to describe the antecedents, and inputs, of the IS of RE teachers. Broadly, the developmental theories that inform psychology of religion describe how religious/spiritual identity may be formed over time (e.g., Fowler, 1981; Fowler, 2000). However, there is not yet an empirical model for how intrinsic spirituality might be developed in people working in a role that requires them to be “witnesses to a living faith that invites students to discipleship and mission” (National Catholic Education Commission, 2018b, p. 15). Not only would this be an important support for Catholic dioceses in forming and training RE teachers, it would also be a contribution to the psychology of religion as it applies to vocations and ministries. The results of such research may also be applied to the process of recruiting and selecting RE teachers.

6.9 Summary

This chapter has reported limitations of the research, summarised the results of the research in terms of the hypotheses, and presented a revised theoretical framework for each of the three dimensions of self-efficacy for teaching RE. The implications of this research, in terms of theory and the work of practitioners were discussed. Finally, suggestions for future investigation related to the self-efficacy of RE teachers were presented. It is hoped that the present research will illustrate the need for a deeper understanding of and support for the development of RE teachers as they carry out work that is essential to the mission of the Catholic Church in Australia.

7. References

- Abbott-Chapman, J., et al. (2014). The longitudinal association of childhood school engagement with adult educational and occupational achievement: findings from an Australian national study. *British Educational Research Journal*, 40(1), 102-120. doi:10.1002/berj.3031
- ACARA. (2013). Guide to Understanding the ICSEA. Retrieved from http://www.acara.edu.au/resources/Guide_to_understanding_2013_ICSEA_values.pdf
- Adams, C. M., & Forsyth, P. B. (2006). Proximate sources of collective teacher efficacy. *Journal of Educational Administration*, 44(6), 625. doi:10.1108/09578230610704828
- Adler, A. (1987). Religion and individual psychology. *Individual Psychology*, 43(4), 522.
- Akomolafe, M. J., Ogunmakin, A. O., & Fasooto, G. M. (2013). The role of academic self-efficacy, academic motivation and academic self-concept in predicting secondary school students' academic performance. *Journal of Educational and Social Research*, 3(2), 335.
- Alavi, S. B., & McCormick, J. (2018). Why do I think my team is capable? A study of some antecedents of team members' personal collective efficacy beliefs. *Educational Psychology*, 38, 1147-1162. doi:10.1080/01443410.2018.1500680
- Allen, I. (2016). God Terms and Activity Systems: A Definition of Religion for Political Science. *Political research quarterly*, 69(3), 557-570.

- Allport, G. W. (1950). *The Individual and his Religion: A Psychological Interpretation*. New York: Macmillan.
- Allport, G. W., & Ross, J. M. (1967). Personal religious orientation and prejudice. *Journal of Personality and Social Psychology*, 5(4), 432-443.
doi:10.1037/h0021212
- Alwin, D. F. (2007). *Margins of error : a study of reliability in survey measurement*. Hoboken, N.J.: Wiley-Interscience.
- Ammerman, N. T. (2013). Spiritual But Not Religious? Beyond Binary Choices in the Study of Religion. *Journal for the Scientific Study of Religion*, 52(2), 258-278.
doi:10.1111/jssr.12024
- Anderson, D. M., & Stritch, J. M. (2016). Goal Clarity, Task Significance, and Performance: Evidence From a Laboratory Experiment. *Journal of Public Administration Research and Theory*, 26(2), 211-225.
doi:10.1093/jopart/muv019
- Aneshensel, C. S. (2013). *Theory-based data analysis for the social sciences* (2nd ed.). Thousand Oaks: SAGE.
- Appelbaum, S., H. , & Hare, A. (1996). Self-efficacy as a mediator of goal setting and performance. *Journal of Managerial Psychology*, 11(3), 33-47.
doi:10.1108/02683949610113584
- Aristotle. (350BCE). *Physics* (R. P. Hardie & R. K. Gaye, Trans.) (Vol. 2). University of Adelaide: Helicon.
- Armor, D., et al. (1976). *Analysis of the school preferred reading programs in selected Los Angeles minority schools*. (R-2007-LAUDS). Retrieved from Santa Monica, CA: <https://www.rand.org/content/dam/rand/pubs/reports/2005/R2007.pdf>

- Atkinson, S. E. (1999). Collaboration: That Awful “C” Word. *The Urban Review*, 31(2), 173-183. doi:10.1023/A:1023283507832
- Atta, N., Ahmad, N., Ahmed, M., & Ali, Z. (2012). Role of gender and teaching experience on teachers' self-efficacy. *Language In India*, 12(9), 251.
- Aubrey, E. E. (1925). The Nature of Religion. A Study in Method of Definition. *The Journal of religion*, 5(2), 187-191.
- Australian Education Act, (2013).
- Australian Bureau of Statistics. (2017a). 2016 Census data reveals “no religion” is rising fast [Press release]. Retrieved from <http://www.abs.gov.au/AUSSTATS/abs@.nsf/mediareleasesbyReleaseDate/7E65A144540551D7CA258148000E2B85>
- Australian Bureau of Statistics. (2017b). *Census of Population and Housing 2016* [Population census]. Retrieved from: www.abs.gov.au
- Babbie, E. R. (1990). *Survey research methods* (2nd ed.). Belmont, Calif.: Wadsworth Pub. Co.
- Bandura, A. (1977a). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological review*, 84(2), 191-215. doi:10.1037/0033-295X.84.2.191
- Bandura, A. (1977b). *Social Learning Theory*. Englewood Cliffs, N.J.: Prentice Hall.
- Bandura, A. (1978). The self system in reciprocal determinism. *American Psychologist*, 33(4), 344-358. doi:10.1037/0003-066X.33.4.344
- Bandura, A. (1982). The assessment and predictive generality of self-percepts of efficacy. *Journal of behavior therapy and experimental psychiatry*, 13(3), 195-199. doi:10.1016/0005-7916(82)90004-0

- Bandura, A. (1983). Self-efficacy determinants of anticipated fears and calamities. *Journal of Personality and Social Psychology*, 45(2), 464-469.
doi:10.1037/0022-3514.45.2.464
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, N.J.: Prentice-Hall.
- Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist*, 44(9), 1175-1184. doi:10.1037/0003-066X.44.9.1175
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, 28(2), 117-148. doi:10.1207/s15326985ep2802_3
- Bandura, A. (1997). *Self-Efficacy: The Exercise of Control*. New York: W.H. Freeman.
- Bandura, A. (1999). Social cognitive theory: An agentic perspective. *Asian Journal of Social Psychology*, 2(1), 21-41. doi:10.1111/1467-839X.00024
- Bandura, A. (2000). Exercise of Human Agency through Collective Efficacy. *Current Directions in Psychological Science*, 9(3), 75-78. doi:10.1111/1467-8721.00064
- Bandura, A. (2002). Social cognitive theory in cultural context. *Applied Psychology*, 51(2), 269-290. doi:10.1111/1464-0597.00092
- Bandura, A. (2003). On the Psychosocial Impact and Mechanisms of Spiritual Modeling. *International Journal for the Psychology of Religion*, 13(3), 167.
doi:10.1207/s15327582ijpr1303_02
- Bandura, A. (2006). Guide for constructing self-efficacy scales. In F. Pajares, Urdan, T. (Ed.), *Self-Efficacy Beliefs of Adolescents* (pp. 307-337). Greenwich, CT: Information Age Publishing.

- Bandura, A., Ross, D., & Ross, S. A. (1961). Transmission of aggression through imitation of aggressive models. *Journal of Abnormal and Social Psychology*, 63(3), 575-582. doi:10.1037/h0045925
- Banerjee, L. (2011). Collaboration in nursing care. *SRNA Newsbulletin*, 13(3), 8.
- Barnett, K., & McCormick, J. (2012). Leadership and Team Dynamics in Senior Executive Leadership Teams. *Educational Management Administration & Leadership*, 40(6), 653-671. doi:10.1177/1741143212456909
- Barr, A., et al. (2008). *Melbourne Declaration on Educational Goals for Young Australians* (978-0-7594-0524-0). Retrieved from http://www.curriculum.edu.au/verve/_resources/National_Declaration_on_the_Educational_Goals_for_Young_Australians.pdf
- Bartholomew, D. J., Knott, M., & Moustaki, I. (2011). *Latent variable models and factor analysis : a unified approach* (3rd ed.). Chichester, West Sussex: Wiley.
- Basten, C. (1997). A Feminised Profession: Women in the teaching profession. *Educational Studies*, 23(1), 55-62. doi:10.1080/0305569970230104
- Batson, C. D., Eidelman, S. H., Higley, S. L., & Russell, S. A. (2001). "And who is my neighbor?" II: Quest religion as a source of universal compassion. *Journal for the Scientific Study of Religion*, 40(1), 39-50. doi:10.1111/0021-8294.00036
- Batson, C. D., & Ventis, W. L. (1982). *The religious experience : a social-psychological perspective*. New York: Oxford University Press.
- Bedwell, W. L., et al. (2012). Collaboration at work: An integrative multilevel conceptualization. *Human resource management review*, 22(2), 128-145. doi:10.1016/j.hrmr.2011.11.007
- Belfiore, E. (1983). Aristotle's Concept of Praxis in the Poetics, 110.

- Belsley, D. A., Welsch, R. E., & Kuh, E. (1979). *Regression diagnostics : identifying influential data and sources of collinearity* / David A. Belsley, Edwin Kuh, Roy E. Welsch: New York : Wiley, [1979].
- Belzen, J. A. (2010). Psychology of religion: Perspectives from cultural psychology. *Mental Health, Religion & Culture*, 13(4), 329-347.
doi:10.1080/13674670903415212
- Belzen, J. A. (2016). *A hundred years of the IAPR : a celebratory supplement to the Archive for the Psychology of Religion : studies and discussions of the history of the International Association for the Psychology of Religion*. Leiden ; Boston: Brill.
- Berger, P. L. (1974). Some Second Thoughts on Substantive versus Functional Definitions of Religion. *Journal for the Scientific Study of Religion*(2), 125.
doi:10.2307/1384374
- Berlyne, D. E. (1975). Behaviourism? Cognitive theory? Humanistic psychology? To Hull with them all. *Canadian psychological review*, 16(2), 69-80.
doi:10.1037/h0081798
- Bishops of NSW and the ACT. (2007). *Catholic Schools at the Crossroads*. Retrieved from Sydney: http://www.cecnsw.catholic.edu.au/db_uploads/catholic-schools-at-a-crossroads.pdf
- Block, M. E., Hutzler, Y., Barak, S., & Klavina, A. (2013). Creation and Validation of the Self-Efficacy Instrument for Physical Education Teacher Education Majors Toward Inclusion. *Adapted Physical Activity Quarterly*, 30(2), 184-205.
- Bocock, R. J. (1977). Freud and the centrality of instincts in psychoanalytic sociology. *The British Journal of Sociology*, 28(4), 467-480.

- Bray, S. R., Gyurcsik, N. C., Culos-Reed, S. N., Dawson, K. A., & Martin, K. A. (2001). An Exploratory Investigation of the Relationship between Proxy Efficacy, Self-efficacy and Exercise Attendance. *Journal of health psychology*, 6(4), 425-434. doi:10.1177/135910530100600405
- Brewer, K. (2013). Three controversies in the history of survey sampling. *Survey Methodology*, 39(2), 249-262.
- Brewer, M. B., & Chen, Y.-R. (2007). Where (who) are collectives in collectivism? Toward conceptual clarification of individualism and collectivism. *Psychological review*, 114(1), 133-151. doi:10.1037/0033-295X.114.1.133
- Brown, C., & Poortman, C. L. (2018). *Networks for learning : effective collaboration for teacher, school and system improvement*. Abingdon, Oxon ; New York, NY: Routledge.
- Brown, C. E. (1998). Factor Analysis. In C. E. Brown (Ed.), *Applied Multivariate Statistics in Geohydrology and Related Sciences* (pp. 37-51). Berlin, Heidelberg: Springer Berlin Heidelberg.
- Browne, M. W. (2000). Psychometrics. *Journal of the American Statistical Association*, 95(450), 661-665. doi:10.2307/2669413
- Bruce, C. D., Esmonde, I., Ross, J., Dookie, L., & Beatty, R. (2010). The effects of sustained classroom-embedded teacher professional learning on teacher efficacy and related student achievement. *Teaching and Teacher Education*, 26(8), 1598-1608. doi:10.1016/j.tate.2010.06.011
- Buchanan, M. T. (2009). Religious education in Australian Catholic schools : past and present. *Religious Education Journal of Australia*, 25(2), 30-37.

Butler, D. L., Lauscher, H. N., Jarvis-Selinger, S., & Beckingham, B. (2004).

Collaboration and self-regulation in teachers' professional development.

Teaching and Teacher Education, 20(5), 435-455.

doi:10.1016/j.tate.2004.04.003

Cappé, O., Guillin, A., Marin, J. M., & Robert, C. P. (2004). Population Monte Carlo.

Journal of Computational and Graphical Statistics, 13(4), 907-929.

doi:10.1198/106186004X12803

Capps, D. (2015). Erik H. Erikson's Young Man Luther: A Classic Revisited. *Pastoral*

Psychology, 64(3), 327-343. doi:10.1007/s11089-013-0564-2

Caprara, G. V., Barbaranelli, C., Steca, P., & Malone, P. S. (2006). Teachers' self-

efficacy beliefs as determinants of job satisfaction and students' academic

achievement: A study at the school level. *Journal of School Psychology*, 44(6),

473-490. doi:10.1016/j.jsp.2006.09.001

Cascio, T. (1999). Religion and spirituality: Diversity issues for the future. *Journal of*

Multicultural Social Work, 7(3-4), 129-145. doi:10.1300/J285v07n03_07

Catholic Church. (1997). *Catechism of the Catholic Church : revised in accordance*

with the official Latin text promulgated by Pope John Paul II (2nd ed.). Vatican

City.

Catholic Education Commission of Western Australia. (2009). Mandate of the Catholic

Education Commission of Western Australia. Retrieved from

<http://internet.ceo.wa.edu.au/AboutUs/Documents/Bishops%20Mandate%202009-2015.pdf>

Catholic Education Diocese of Parramatta. (2016). Teaching in Catholic Schools.

Retrieved from <http://www.parra.catholic.edu.au/teaching-in-catholic-schools>

- Catholic Education Melbourne. (2016). Horizons of Hope. Retrieved from <https://www.cem.edu.au/Our-Schools/Curriculum/Horizons-of-Hope.aspx>
- Catholic Education Melbourne. (2018). A Vision for Religious Education. Retrieved from <https://www.cem.edu.au/Our-Schools/Curriculum-Learning-Programs/Religious-Education.aspx>
- Catholic Education Office Melbourne. (2005). Coming to Know, Worship and Love - A Religious Education Curriculum Framework for Catholic Schools in the Archdiocese of Melbourne, 20. Retrieved from http://www.resourcemelb.catholic.edu.au/uploads/rspga/general_assets/intro.pdf
- Catholic Education Office Sydney. (2011). REC - Generic Role Description. Retrieved from <https://studylib.net/doc/6962068/rec---generic-role-description---catholic-education-offic...>
- Catholic Religious Australia. (2018). Catholic Religious Australia - Member Congregations. Retrieved from <https://www.catholicreligious.org.au/member-congregations/>
- Catto, R., Davie, G., & Perfect, D. (2015). State and Religion in Great Britain: Constitutional Foundations, Religious Minorities, the Law and Education. *Insight Turkey*, 17(1), 79-96.
- Chan, C., & Fai Pang, M. (2006). Teacher collaboration in learning communities. *Teaching Education*, 17(1), 1-5. doi:10.1080/10476210500527899
- Chapman, C., & Fullan, M. (2007). Collaboration and partnership for equitable improvement: Towards a networked learning system? *School Leadership & Management*, 27(3), 207-211. doi:10.1080/13632430701379354

- Charmaz, K. (2017). Constructivist grounded theory. *The journal of positive psychology*, 12(3), 299-300. doi:10.1080/17439760.2016.1262612
- Coakes, S. J. (2013). *SPSS : analysis without anguish : version 20 for Windows / Sheridan J Coakes*: Milton, Qld. John Wiley & Sons, 2013.
- Cohen, A. B., et al. (2017). Theorizing and Measuring Religiosity Across Cultures. *Personality & social psychology bulletin*, 43(12), 1724-1736. doi:10.1177/0146167217727732
- Cohen, L., Manion, L., & Morrison, K. (2000). *Research methods in education*. New York: Routledge.
- Cohen, L., Manion, L., & Morrison, K. (2011). *Research methods in education* (7th ed.). London ; New York: Routledge.
- Cohen, S. G., & Bailey, D. E. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of Management*, 23(3), 239-290. doi:10.1016/S0149-2063(97)90034-9
- Conference of Diocesan Directors of Education - NSW and ACT. (2010). An Accreditation Framework for Catholic Schools in NSW. Retrieved from http://www.acu.edu.au/_data/assets/pdf_file/0006/495105/Accreditation_NSW.pdf
- Congregation for Catholic Education. (2009). Circular Letter to the Presidents of Bishops' Conferences on Religious Education in Schools. Retrieved from http://www.vatican.va/roman_curia/congregations/ccatheduc/documents/rc_con_ccatheduc_doc_20090505_circ-insegn-relig_en.html

- Cook, D. A., Castillo, R. M., Gas, B., & Artino, A. R. (2017). Measuring achievement goal motivation, mindsets and cognitive load: validation of three instruments' scores. *Medical Education*, 51(10), 1061-1074. doi:doi:10.1111/medu.13405
- Cooke, B. J. (1983). *Sacraments & sacramentality*. Mystic, Conn.: Twenty-Third Publications.
- Corbin, J. M., & Strauss, A. L. (2015). *Basics of qualitative research : techniques and procedures for developing grounded theory* (Fourth edition. ed.). Los Angeles: SAGE.
- Coughlan, M., Cronin, P., & Ryan, F. (2009). Survey research: process and limitations. *International Journal of Therapy & Rehabilitation*, 16(1), 9-15.
- Couture, M. I. (2007). Self-actualization and poststroke rehabilitation. *International journal of rehabilitation research*, 30(2), 111-117.
doi:10.1097/MRR.0b013e32813a2ea5
- Covey, S. R. (1990). *The Seven Habits of Highly Effective People: Restoring the Character Ethic*. New York: Simon & Schuster.
- Creswell, J. W. (2003). *Research design : qualitative, quantitative, and mixed methods approaches* (2nd ed.): Thousand Oaks, Calif. : Sage Publications.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry & research design : choosing among five approaches* (Fourth edition. ed.). Los Angeles: SAGE.
- Curda, L. K., & Smith, E. V. (2002). Establishing a Common Metric for Selected Teacher Self-Efficacy Scales. *Asia-Pacific Journal of Teacher Education & Development*, 5(1), 1.
- Darling-Hammond, L. (1997). The quality of teaching matters most. *Journal of Staff Development*, 18(1), 38.

- de Guzman, A. B., Lacao, R. A., & Larracas, C. (2015). A Structural Equation Modelling on the Factors Affecting Intolerance of Uncertainty and Worry Among a Select Group of Filipino Elderly. *Educational Gerontology*, 41(2), 106-119. doi:10.1080/03601277.2014.918837
- de Jager Meezenbroek, E., et al. (2012). Measuring Spirituality as a Universal Human Experience: A Review of Spirituality Questionnaires. *Journal of Religion and Health*, 51(2), 336-354. doi:10.1007/s10943-010-9376-1
- de Lima, J. Á. (2001). Forgetting about friendship: Using conflict in teacher communities as a catalyst for school change. *Journal of Educational Change*, 2(2), 97-122. doi:10.1023/A:1017509325276
- de Souza, M., Bone, J., & Watson, J. (Eds.). (2016). *Spirituality across disciplines : Research and Practice*: Springer.
- Dellinger, A. B., Bobbett, J. J., Olivier, D. F., & Ellett, C. D. (2008). Measuring teachers' self-efficacy beliefs: Development and use of the TEBS-Self. *Teaching and Teacher Education*, 24(3), 751-766.
doi:<http://dx.doi.org/10.1016/j.tate.2007.02.010>
- Delprato, D. J., & Midgley, B. D. (1992). Some fundamentals of B. F. Skinner's behaviorism. *American Psychologist*, 47(11), 1507-1520. doi:10.1037/0003-066X.47.11.1507
- Denzin, N. K. (2010). Moments, Mixed Methods, and Paradigm Dialogs. *Qualitative Inquiry*, 16(6), 419-427. doi:10.1177/1077800410364608
- DePoy, E., & Gitlin, L. N. (2016). *Introduction to research : understanding and applying multiple strategies* (5th ed.): St. Louis, Missouri : Elsevier.

- DeVellis, R. F. (2017). *Scale development : theory and applications* (Fourth edition. ed.). Los Angeles: SAGE.
- Dik, B. J., & Duffy, R. D. (2007). Calling and Vocation at Work: Definitions and Prospects for Research and Practice. *The Counseling Psychologist*, 37(3), 424-450. doi:10.1177/0011000008316430
- Dixon, R., Reid, S., & Chee, M. (2013). Mass attendance in Australia: A critical moment. Retrieved from <https://pro.catholic.org.au/pdf/Pastoral%20Research%20Office%20-%20Mass%20attendance%20in%20Australia%20-%20a%20critical%20moment%20-%20December%202013.pdf>
- Dooner, A. M., Mandzuk, D., & Clifton, R. A. (2008). Stages of collaboration and the realities of professional learning communities. *Teaching and Teacher Education*, 24(3), 564-574. doi:10.1016/j.tate.2007.09.009
- Drudy, S. (2008). Gender balance/gender bias: the teaching profession and the impact of feminisation. *Gender and Education*, 20(4), 309-323. doi:10.1080/09540250802190156
- DuFour, R., & Eaker, R. E. (1998). Professional learning communities at work: Best practices for enhancing student achievement (1998 ed., pp. 241). Bloomington, Indiana: Solution Tree.
- Dumont, F. (2010). *A history of personality psychology: Theory, science, and research from Hellenism to the twenty-first century*. Cambridge: Cambridge University Press.
- Dunning, D. (2011). The Dunning–Kruger Effect. *Advances in experimental social psychology*, 247-296. doi:10.1016/B978-0-12-385522-0.00005-6

- Dweck, C. S. (1975). The role of expectations and attributions in the alleviation of learned helplessness. *Journal of Personality and Social Psychology*, 31(4), 674-685. doi:10.1037/h0077149
- Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist*, 41(10), 1040-1048. doi:10.1037/0003-066X.41.10.1040
- Dweck, C. S. (1991). Self-theories and goals: Their role in motivation, personality and development. *Nebraska Symposium on Motivation*, 38, 199-235.
- Dweck, C. S. (2000). *Self-theories: Their role in motivation, personality, and development*. Philadelphia, PA: Psychology Press.
- Dweck, C. S. (2002). The development of ability conceptions. In A. Wigfield & J. S. Eccles (Eds.), *Educational psychology: Development of achievement motivation* (pp. 57-88). New York: Elsevier Inc.
- Dweck, C. S. (2016). *Mindset : the new psychology of success* (Updated edition. ed.). New York: Random House.
- Dweck, C. S., Chiu, C., & Hong, Y. (1995). Implicit Theories and Their Role in Judgments and Reactions: A World from Two Perspectives. *Psychological Inquiry*, 6(4), 267-285.
- Dziuban, C. D., & Shirkey, E. C. (1977). *Sampling Adequacy and the Semantic Differential*. Paper presented at the American Educational Research Association.
- Eccles, J. S. (1984). Perceptions, motivation, and learning. *PsycCRITIQUES*, 29(4), 280-281. doi:10.1037/022766
- Egodawatte, G., McDougall, D., & Stoilescu, D. (2011). The effects of teacher collaboration in Grade 9 Applied Mathematics. *Educational Research for Policy and Practice*, 10(3), 189-209. doi:10.1007/s10671-011-9104-y

- Egyed, C. J., & Short, R. J. (2006). Teacher self-efficacy, burnout, experience and decision to refer a disruptive student. *School Psychology International*, 27(4), 462-474. doi:10.1177/0143034306070432
- Emmons, R. A., & Paloutzian, R. F. (2003). The psychology of religion. *Annual review of psychology*, 54, 377-402. doi:10.1146/annurev.psych.54.101601.145024
- Endler, N. S., & Magnusson, D. (1976). Toward an interactional psychology of personality. *Psychological bulletin*, 83(5), 956-974. doi:10.1037/0033-2909.83.5.956
- Erdem, E., & Demirel, O. (2007). Teacher self-efficacy belief. *Social Behavior and Personality: an international journal*, 35(5), 573-586. doi:10.2224/sbp.2007.35.5.573
- Erford, B. T., Duncan, K., & Savin-Murphy, J. (2010). Brief Psychometric Analysis of the Self-Efficacy Teacher Report Scale. *Measurement and Evaluation in Counseling and Development*, 43(2), 79-90. doi:10.1177/0748175610373454
- Ewens, B. (2017). Implications for research and practice of the biographic approach for storytelling. *Nurse researcher*, 24(3), 19-24. doi:10.7748/nr.2017.e1396
- Fancera, S. F. (2009). *Instructional leadership influence on collective efficacy and school achievement*. (Doctor of Education Dissertation), University of New Jersey, New Jersey.
- Ferla, J., Valcke, M., & Cai, Y. (2009). Academic self-efficacy and academic self-concept: Reconsidering structural relationships. *Learning and Individual Differences*, 19(4), 499-505. doi:10.1016/j.lindif.2009.05.004
- Fernandez-Ballesteros, R., Diez-Nicolas, J., Caprara, G. V., Barbaranelli, C., & Bandura, A. (2002). Determinants and structural relation of personal efficacy to

- collective efficacy. *Applied Psychology An International Review*, 51(1), 107-125. doi:10.1111/1464-0597.00081
- Ferrari, M., Robinson, D. K., & Yasnitsky, A. (2010). Wundt, Vygotsky and Bandura: A cultural-historical science of consciousness in three acts. *History of the Human Sciences*, 23(3), 95-118. doi:10.1177/0952695110363643
- Fletcher, A. K. (2016). Exceeding expectations: scaffolding agentic engagement through assessment as learning. *Educational research (Windsor)*, 58(4), 400-419. doi:10.1080/00131881.2016.1235909
- Fowler, J. W. (1981). *Stages of faith : the psychology of human development and the quest for meaning* (1st ed.). San Francisco: Harper & Row.
- Fowler, J. W. (2000). *Becoming adult, becoming Christian : adult development and Christian faith* (Rev. ed.). San Francisco: Jossey-Bass Publishers.
- Freese, J. (2004). Risk Preferences and Gender Differences in Religiousness: Evidence from the World Values Survey. *Review of Religious Research*, 46(1), 88-91. doi:10.2307/3512255
- Freud, S. (1920). *A general introduction to psychoanalysis*. New York: H. Liveright.
- Freud, S., & Brill, A. A. (1914). *Psychopathology of everyday life*. New York,: Macmillan.
- Fullan, M., Cuttress, C., & Kilcher, A. (2005). 8 forces for leaders of change. *Journal of Staff Development*, 26(4), 54.
- Garrone, C. G.-M. (1977). The Catholic School. Retrieved from http://www.vatican.va/roman_curia/congregations/ccatheduc/documents/rc_con_ccatheduc_doc_19770319_catholic-school_en.html

Gaski, J. F. (2013). 'Survey': needless despoilment of a traditional research term.

International Journal of Market Research, 55(3), 337-356. doi:10.2501/IJMR-2013-033

Giorgi, A. (2014). Phenomenological philosophy as the basis for a human scientific psychology. *The Humanistic Psychologist*, 42(3), 233-248.

doi:10.1080/08873267.2014.933052

Goddard, R. (2001). Collective efficacy: A neglected construct in the study of schools and student achievement. *Journal of Educational Psychology*, 93(3), 467-476.

doi:10.1037/0022-0663.93.3.467

Goddard, R. (2002). A theoretical and empirical analysis of the measurement of collective efficacy: The development of a short form. *Educational and*

Psychological Measurement, 62(1), 97-110. doi:10.1177/0013164402062001007

Goddard, R., Goddard, Y., Eun Sook, K. I. M., & Miller, R. (2015). A Theoretical and Empirical Analysis of the Roles of Instructional Leadership, Teacher Collaboration, and Collective Efficacy Beliefs in Support of Student Learning.

American Journal of Education, 121(4), 501-530.

Goddard, R., Hoy, W. K., & Hoy, A. W. (2000). Collective teacher efficacy: Its meaning, measure, and impact on student achievement. *American Educational*

Research Journal, 37(2), 479-507. doi:10.3102/00028312037002479

González, M. G., Burke, M. J., Santuzzi, A. M., & Bradley, J. C. (2003). The impact of group process variables on the effectiveness of distance collaboration groups.

Computers in Human Behavior, 19(5), 629-648. doi:10.1016/S0747-

5632(02)00084-5

- Goodlad, J. I. (1983). A study of schooling: Some implications for school improvement. *The Phi Delta Kappan*, 64(8), 552-558.
- Gore, P. A. (2006). Academic self-efficacy as a predictor of college outcomes: Two incremental validity studies. *Journal of Career Assessment*, 14(1), 92-115.
doi:10.1177/1069072705281367
- Gorsuch, R. L., & McPherson, S. E. (1989). Intrinsic-Extrinsic Measurement, I/E-Revised and Single Item Scales. *Journal for the Scientific Study of Religion*, 28(3), 348-354. doi:10.2307/1386745
- Gorsuch, R. L., Mylvaganam, G., & Gorsuch, K. (1997). Perceived religious motivation. *International Journal for the Psychology of Religion*, 7(4), 253-261.
doi:10.1207/s15327582ijpr0704_6
- Graham, J. D. (2011). Daring to engage : religious and spiritual formation of lay Catholic educators in Australia. *International Studies in Catholic Education*, 3(1).
- Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a Conceptual Framework for Mixed-Method Evaluation Designs, 255.
- Grocholewski, Z. (2009). Circular Letter To The Presidents Of Bishops' Conferences On Religious Education In Schools. Retrieved from
http://www.vatican.va/roman_curia/congregations/ccatheduc/documents/rc_con_ccatheduc_doc_20090505_circ-insegn-relig_en.html
- Groome, T. H. (1991). *Sharing faith : a comprehensive approach to religious education and pastoral ministry : the way of shared praxis* (1st ed.). San Francisco: HarperSanFrancisco.

- Groome, T. H. (2014). Catholic education: from and for faith. *International Studies in Catholic Education*, 6(2), 113-127. doi:10.1080/19422539.2014.929802
- Grusec, J. E. (1992). Social learning theory and developmental psychology: The legacies of Robert Sears and Albert Bandura. *Developmental Psychology*, 28(5), 776-786. doi:10.1037/0012-1649.28.5.776
- Gully, S. M., Joshi, A., Incalcaterra, K. A., & Beaubien, J. M. (2002). A Meta-Analysis of Team-Efficacy, Potency, and Performance: Interdependence and Level of Analysis as Moderators of Observed Relationships. *Journal of Applied Psychology*, 87(5), 819-832. doi:10.1037//0021-9010.87.5.819
- Gundlach, H. (1993). Psychophysics, its history and ontology. *Behavioral and Brain Sciences*, 16(1), 144-145. doi:10.1017/S0140525X00029344
- Hackett, C., McClendon, D., & Fengyan Shi, A. (2016). *The Gender Gap in Religion Around the World*. Retrieved from www.pewresearch.org
- Hafizi, S., Koenig, H., & Khalifa, D. (2015). Psychometric Properties of the Farsi Version of Hoge Intrinsic Religiosity Scale in Muslims: A Brief Report. *Pastoral Psychology*, 64(6), 839-845. doi:10.1007/s11089-015-0648-2
- Hair, J. F., Black, W. C., Babi, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Upper Saddle River, NJ: Prentice Hall.
- Hammersley, M. (1992). *What's wrong with ethnography? : methodological explorations*. London ; New York: Routledge.
- Hammersley, M., & Atkinson, P. (2007). *Ethnography : principles in practice* (3rd ed.). London ; New York: Routledge.

- Hanham, J., & McCormick, J. (2009). Group work in schools with close friends and acquaintances: Linking self-processes with group processes. *Learning and Instruction, 19*(3), 214-227. doi:10.1016/j.learninstruc.2008.04.002
- Hargreaves, A. (2001). The emotional geographies of teachers' relations with colleagues. *International Journal of Educational Research, 35*(5), 503-527. doi:10.1016/S0883-0355(02)00006-X
- Harman, H. H. (1960). *Modern factor analysis*: University of Chicago Press.
- Hart, C. W. (2008). William James' the varieties of religious experience revisited. *Journal of Religion and Health, 47*(4), 516-524. doi:10.1007/s10943-008-9200-3
- Hattie, J. (2009). *Visible learning: a synthesis of over 800 meta-analyses relating to achievement*. New York: Routledge.
- Heck, R. H., & Thomas, S. L. (2015). *An introduction to multilevel modeling techniques : MLM and SEM approaches using Mplus* (Third edition. ed.). New York, NY: Routledge, Taylor & Francis Group.
- Heider, F., & Benesh-Weiner, M. (1988). *Attributional and interpersonal evaluation*. New York: Springer-Verlag.
- Hewitt, M. (2014). *Freud on religion*. Durham, UK ; Bristol, CT, USA: Acumen.
- Hill, P. C. (2010). On a cultural psychology of religion: A critical response to Belzen. *Mental Health, Religion & Culture, 13*(4), 373-379. doi:10.1080/13674670903415287
- Hill, P. C., & Hood, R. W. (1999). *Measures of religiosity*. Birmingham, Ala.: Religious Education Press.

- Hill, P. C., & Pargament, K. I. (2003). Advances in the conceptualization and measurement of religion and spirituality: Implications for physical and mental health research. *American Psychologist*, 58(1), 64-74. doi:10.1037/0003-066X.58.1.64
- Hoare, C. (2009). Identity and Spiritual Development in the Papers of Erik Erikson. *Identity (Mahwah, N.J.)*, 9(3), 183-200. doi:10.1080/15283480903344497
- Hodge, D. (2003). The intrinsic spirituality scale: A new six-item instrument for assessing the salience of spirituality as a motivational construct. *Journal of Social Service Research*, 30(1), 41-61. doi:10.1300/J079v30n01_03
- Hodge, D. (2012). The Conceptual and Empirical Relationship Between Spirituality and Social Justice: Exemplars from Diverse Faith Traditions. *Journal of Religion & Spirituality in Social Work: Social Thought*, 31(1), 32-50. doi:10.1080/15426432.2012.647878
- Hodge, D., Zidan, T., & Husain, A. (2015). Validation of the Intrinsic Spirituality Scale (ISS) with Muslims. *Psychological Assessment*, 27(4), 1264-1272. doi:10.1037/pas0000130
- Hodge, D. R. (2018). The evolution of spirituality and religion in international social work discourse: Strengths and limitations of the contemporary understanding. *Journal of religion & spirituality in social work*, 37(1), 3-23. doi:10.1080/15426432.2017.1350125
- Hofstede, G. (1984). *Culture's consequences: international differences in work-related values*. Beverly Hills: Sage Publications.
- Hoge, D. R. (1972). VALIDATED INTRINSIC RELIGIOUS MOTIVATION SCALE. *Journal for the Scientific Study of Religion*, 11(4), 369-376.

- Hogg, R. (2018). Sex, Gender and the Sacred: Reconfiguring Religion in Gender History. *Journal of Religious History*, 42(1), 131-132. doi:10.1111/1467-9809.12504
- Hong, Y. Y., Chiu, C. Y., Dweck, C. S., Lin, D. M. S., & Wan, W. (1999). Implicit theories, attributions, and coping: A meaning system approach. *Journal of Personality and Social Psychology*, 77(3), 588-599. doi:10.1037//0022-3514.77.3.588
- Hood, R. W., Hill, P. C., & Spilka, B. (2009). *The psychology of religion : an empirical approach* (4th ed.). New York: Guilford Press.
- Howell, D. C. (2008). *Fundamental statistics for the behavioral sciences* (6th ed.): Belmont, CA : Thomson/Wadsworth.
- Howell, D. C. (2014). *Fundamental statistics for the behavioral sciences* (8th ed.). Belmont, Calif.: Wadsworth, Cengage Learning.
- Hoy, W. K., & Woolfolk, A. E. (1993). Teachers' sense of efficacy and the organizational health of schools. *The Elementary School Journal*, 93(4), 355-372. doi:10.1086/461729
- Hsieh, P. P.-H., & Kang, H.-S. (2010). Attribution and Self-Efficacy and Their Interrelationship in the Korean EFL Context. *Language Learning*, 60(3), 606-627. doi:10.1111/j.1467-9922.2010.00570.x
- Huber, S. (2008). Core dimensions, centrality and content: An interdisciplinary model of religiosity. *Journal für Psychologie*, 16(3), 5-5.
- Hunter, J. E. (1997). Needed: A Ban on the Significance Test. *Psychological Science*, 8(1), 3-7. doi:10.1111/j.1467-9280.1997.tb00534.x

Hunter, M., & Barker, G. (1987). "If at first...": Attribution theory in the classroom.

Educational Leadership, 45(2), 50-53.

Hyde, B. (2008). I Wonder What You Think Really, Really Matters? Spiritual Questing and Religious Education. *Religious Education*, 103(1), 32-47.

doi:10.1080/00344080701807429

Ibrahim, D., Sedat, G., & Mehmet Sukru, B. (2013). Multilevel analysis of teacher work attitudes: The influence of principal leadership and teacher collaboration. *The International Journal of Educational Management*, 27(7), 700.

doi:10.1108/IJEM-09-2012-0107

doi:10.1108/IJEM-09-2012-0107

Ilgen, D. R., Hollenbeck, J. R., Johnson, M., & Jundt, D. (2005). Teams in

organizations: From input-process-output models to IMOI models. *Annual*

review of psychology, 56(1), 517-543.

doi:10.1146/annurev.psych.56.091103.070250

Jahoda, M. (1977). *Freud and the dilemmas of psychology*. London: Hogarth Press.

James, W. (1902). *The varieties of religious experience: a study in human nature*. New

York: Longman's, Green and Co.

Jansen, H. (2010). The Logic of Qualitative Survey Research and its Position in the

Field of Social Research Methods. *Forum: Qualitative Social Research*, 11(2),

1-21.

Johnson, R. L., & Morgan, G. B. (2016). *Survey scales : a guide to development,*

analysis, and reporting. New York: The Guilford Press.

Johnson, S. A., & Cuevas, J. (2016). The Effects of Inquiry Project-Based Learning on

Student Reading Motivation and Student Perceptions of Inquiry Learning

Processes. *Georgia Educational Researcher*, 13(1).

- Johnson, S. B. (2012). *The impact of collaborative structures on perceived collective efficacy*. (Doctor of Philosophy Dissertation), Maryland University, Maryland.
- Jonsson, A.-C., Beach, D., Korp, H., & Erlandson, P. (2012). Teachers' implicit theories of intelligence: influences from different disciplines and scientific theories. *European Journal of Teacher Education*, 35(4), 387-400.
doi:10.1080/02619768.2012.662636
- Jung, C. G. (1950). *Modern man in search of a soul*. New York,: Harcourt.
- Kane, T. D. (1996). *Integrating functional leadership and social cognitive theory: The leader's regulation of groups*. (Doctor of Philosophy Dissertation), George Mason University, Virginia.
- Karbasi, S. (2016). Psychometric Properties of Teacher Self-efficacy Scale. *Procedia, social and behavioral sciences*, 217, 618-621. doi:10.1016/j.sbspro.2016.02.069
- Kardong-Edgren, S. (2013). Bandura's Self-Efficacy Theory. Something Is Missing. *Clinical Simulation in Nursing*, 9(9), E327-E328.
doi:10.1016/j.ecns.2013.07.001
- Katz-Navon, T. Y., & Erez, M. (2005). When collective- and self-efficacy affect team performance: The role of task interdependence. *Small Group Research*, 36(4), 437-465. doi:10.1177/1046496405275233
- Keast, R., & Mandell, M., P. (2013). Key Elements of Collaboration. Retrieved from <http://www.aracy.org.au/>
- Kerlinger, F. N. (1986). *Foundations of behavioral research*. New York: Holt, Rinehart and Winston.
- Kiesler, S., & Sproull, L. S. (1986). Response Effects in the Electronic Survey. *The Public Opinion Quarterly*(3), 402.

- Kim, U., & Han'guk Simni, H. (1994). *Individualism and collectivism: Theory, method, and applications* (Vol. 18). Thousand Oaks, Calif: Sage Publications.
- King, P. E. (2003). Religion and identity: The role of ideological, social, and spiritual contexts. *Applied Developmental Science*, 7(3), 197-204.
doi:10.1207/S1532480XADS0703_11
- Kiray, S. A. (2016). Development of a TPACK Self-Efficacy Scale for Preservice Science Teachers. *International Journal of Research in Education and Science*, 2(2), 527-541.
- Kirkpatrick, L. A., & Hood, R. W. (1990). Intrinsic-extrinsic religious orientation: The boon or bane of contemporary psychology of religion? *Journal for the Scientific Study of Religion*, 29(4), 442-462.
- Kirsch, I. (1985). Self-efficacy and expectancy: Old wine with new labels. *Journal of Personality and Social Psychology*, 49(3), 824-830. doi:10.1037/0022-3514.49.3.824
- Kitayama, S., & Park, J. (2010). Cultural neuroscience of the self: Understanding the social grounding of the brain. *Social Cognitive and Affective Neuroscience*, 5(2-3), 111-129. doi:10.1093/scan/nsq052
- Klassen, R. M., & Chiu, M. M. (2010). Effects on teachers' self-efficacy and job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology*, 102(3), 741-756. doi:10.1037/a0019237
- Klassen, R. M., & Tze, V. M. C. (2014). Teachers' self-efficacy, personality, and teaching effectiveness: A meta-analysis. *Educational research review*, 12, 59-76. doi:10.1016/j.edurev.2014.06.001

- Klein, K. J., & Kozlowski, S. W. J. (2000). *Multilevel theory, research, and methods in organizations : foundations, extensions, and new directions*. San Francisco: Jossey-Bass.
- Klenke, K. (2016). Phenomenology and Narrative Analysis (pp. 207-240): Emerald Group Publishing Limited.
- Koltko-Rivera, M. E. (2004). The Psychology of Worldviews. *Review of General Psychology*, 8(1), 3-58. doi:10.1037/1089-2680.8.1.3
- Korkut Altuna, O., & Arslan, F. M. (2016). Impact of the number of scale points on data characteristics and respondents' evaluations: An experimental design approach using 5-point and 7-point Likert-type scales. *Journal of Faculty of Political Sciences*(55), 1-20.
- Krause, N., Ironson, G., & Hill, P. (2018). Religious involvement and happiness: Assessing the mediating role of compassion and helping others. *The Journal of Social Psychology*, 158(2), 256-270. doi:10.1080/00224545.2017.1331992
- Lassonde, C. A., Israel, S. E., & Almasi, J. F. (2009). *Teacher collaboration for professional learning: facilitating study, research, and inquiry communities*. Hoboken, N.J.: Jossey Bass Ltd.
- Leahey, T. H. (2017). *A History of Psychology : From Antiquity to Modernity* (Vol. Eighth edition). New York, NY: Routledge.
- Lee, C. (1994). Self-efficacy beliefs: Comparison of five measures. *Journal of Applied Psychology*, 79(3), 364-369. doi:10.1037/0021-9010.79.3.364
- Lee, J. W. C., & Ramayah, T. (2011). Network collaboration and performance in the tourism sector. *Service business*, 5(4), 411-428. doi:10.1007/s11628-011-0120-z

- Lefever, S., Dal, M., & Matthíasdóttir, Á. (2006). Online data collection in academic research: advantages and limitations. *British Journal of Educational Technology*, 38(4), 574-582. doi:10.1111/j.1467-8535.2006.00638.x
- Leonard, L., & Leonard, P. (2001). Assessing aspects of professional collaboration in schools: Beliefs versus practices. *Alberta Journal of Educational Research*, 47(1), 4.
- Lev, S., & Koslowsky, M. (2009). Moderating the collective and self-efficacy relationship. *Journal of Educational Administration*, 47(4), 452-462. doi:10.1108/09578230910967437
- Levine, G., Page, M. C., Braver, S. L., MacKinnon, D. P., & Levine, G. (2003). *Levine's guide to SPSS for analysis of variance* (2nd ed.). Mahwah, N.J.: L. Erlbaum.
- Linnenbrink, E. A., & Pintrich, P. R. (2003). The role of self-efficacy beliefs in student engagement and learning in the classroom. *Reading & Writing Quarterly*, 19(2), 119-137. doi:10.1080/10573560308223
- Llorent-Vaquero, M. (2018). Religious Education in Public Schools in Western Europe. *International Education Studies*, 11(1), 155-164.
- Lodi-Smith, J., & Roberts, B. W. (2007). Social investment and personality: A meta-analysis of the relationship of personality traits to investment in work, family, religion, and volunteerism. *Personality and Social Psychology Review*, 11(1), 68-86. doi:10.1177/1088868306294590
- Long, J. F., & Moore, R. (2008). Motivating content: How interest and self-efficacy respond to subject matter taught in an alternative teacher education program. *Catholic Education: A Journal of Inquiry and Practice*, 11(4), 442-464.

- Lycan, W. G. (1984). Skinner and the mind–body problem. *Behavioral and Brain Sciences*, 7(4), 634-635. doi:10.1017/S0140525X0002776X
- Maas, C. J. M., & Hox, J. J. (2005). Sufficient Sample Sizes for Multilevel Modeling. *Methodology: European Journal of Research Methods for the Behavioral and Social Sciences*, 1(3), 86-92. doi:10.1027/1614-2241.1.3.86
- MacCallum, R. C., & Austin, J. T. (2000). Applications of structural equation modeling in psychological research. *Annual review of psychology*, 51(1), 201. doi:10.1146/annurev.psych.51.1.201
- MacGinley, M. R. (2002). *A dynamic of hope : institutes of women religious in Australia* (2nd Edition ed.): Sydney : Crossing Press, 2002.
- .
- MacKinlay, E. (2006). *Spiritual Growth and Care in the Fourth Age of Life*. London, UNITED KINGDOM: Jessica Kingsley Publishers.
- Maddux, J. E., Norton, L. W., & Stoltenberg, C. D. (1986). Self-efficacy expectancy, outcome expectancy, and outcome value: Relative effects on behavioral intentions. *Journal of Personality and Social Psychology*, 51(4), 783-789. doi:10.1037/0022-3514.51.4.783
- Mannoni, O., & Bruce, R. (2015). *Freud : the theory of the unconscious*. London ; New York: Verso.
- Mark, M. M., & Shotland, R. L. (1987). Alternative models for the use of multiple methods. *New Directions for Program Evaluation*, 1987(35), 95.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological review*, 98(2), 224-253. doi:10.1037/0033-295X.98.2.224

- Mascaret, N., Roussel, P., & Cury, F. (2015). Using implicit measures to highlight science teachers' implicit theories of intelligence. *European Journal of Psychology of Education*, 30(3), 269-280. doi:<http://dx.doi.org/10.1007/s10212-015-0249-6>
- Maslow, A. H. (1962). *Toward a psychology of being*. Princeton, N.J.,: Van Nostrand.
- Maslow, A. H. (1964). *Religions, values, and peak-experiences*. Columbus,: Ohio State University Press.
- Mastromatteo, G., & Russo, F. (2017). Inequality and Charity. *World development*, 96, 136-144. doi:10.1016/j.worlddev.2017.03.003
- Mathieu, J., Travis Maynard, M., Rapp, T., & Gilson, L. (2008). Team effectiveness 1997-2007: A review of recent advancements and a glimpse into the future. *Journal of Management*, 34(3), 410-476. doi:10.1177/0149206308316061
- Matsumoto, D. (1999). Culture and self: An empirical assessment of Markus and Kitayamas theory of independent and interdependent self-construals. *Asian Journal of Social Psychology*, 2(3), 289-310. doi:10.1111/1467-839X.00042
- McCabe, J. L., & Holmes, D. (2009). Reflexivity, critical qualitative research and emancipation: a Foucauldian perspective. *Journal of Advanced Nursing*, 65(7), 1518-1526. doi:10.1111/j.1365-2648.2009.04978.x
- McCarthy, M. (2000). Spirituality in postmodern era. In J. Woodward & S. Pattison (Eds.), *The Blackwell Reader in Pastoral and Practical Theology* (pp. 192-206). Malden, MA: Blackwell Publishing.
- McClure, P. K. (2016). Something besides monotheism: Sociotheological boundary work among the spiritual, but not religious. *Poetics (Amsterdam)*, 62, 53-65. doi:10.1016/j.poetic.2017.01.001

- McCormick, M. J. (2001). Self-efficacy and leadership effectiveness: Applying social cognitive theory to leadership. *Journal of Leadership & Organizational Studies*, 8(1), 22-33. doi:10.1177/107179190100800102
- McDonald, S., & Young, S. (2012). Cross-sector collaboration shaping corporate social responsibility best practice within the mining industry. *Journal of Cleaner Production*, 37, 54-67. doi:10.1016/j.jclepro.2012.06.007
- McGrath, J. E., & Altman, I. (1966). *Small Group Research: A Synthesis and Critique of the Field*. Retrieved from
- McPhillips, K. (2018). "Soul Murder": Investigating Spiritual Trauma at the Royal Commission. *Journal of Australian studies*, 42(2), 231-242.
- Mesch, D. J., Rooney, P. M., Chin, W., & Steinberg, K. S. (2002). Race and gender differences in philanthropy: Indiana as a test case. *New Directions for Philanthropic Fundraising*, 2002(37), 65-77.
- Meyers, L. S., Gamst, G., & Guarino, A. J. (2017). *Applied multivariate research : design and interpretation* (Third Edition. ed.). Los Angeles: SAGE.
- Middendorp, C. P. (1991). On the conceptualization of theoretical constructs. *Quality and Quantity*, 25(3), 235-252. doi:10.1007/BF00167530
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis : a methods sourcebook* (Third edition. ed.). Thousand Oaks, California: SAGE Publications, Inc.
- Miller, K. A., et al. (2017). Supporting long-term follow-up of young adult survivors of childhood cancer: Correlates of healthcare self-efficacy. *Pediatric Blood & Cancer*, 64(2), 358-363. doi:10.1002/pbc.26209

- Miller, N. E., & Dollard, J. (1941). *Social learning and imitation / by Neal E. Miller and John Dollard*: Pub. for the Institute of human relations by Yale university press.
- Miller, R. L. (2002). *SPSS for social scientists*. Houndmills, Basingstoke, Hampshire ; New York: Palgrave MacMillan.
- Mills, R. S. L., Pedersen, J., & Grusec, J. E. (1989). Sex Differences in Reasoning and Emotion About Altruism. *Sex Roles*, 20(11-12), 603-621.
- Mirecki, P., & Meyer, M. (2002). *Magic and ritual in the ancient world*. Leiden: BRILL.
- Moolenaar, N. M., Sleegers, P. J. C., & Daly, A. J. (2012). Teaming up: Linking collaboration networks, collective efficacy, and student achievement. *Teaching and Teacher Education: An International Journal of Research and Studies*, 28(2), 251-262. doi:10.1016/j.tate.2011.10.001
- Moran, F. M. (2010). *The paradoxical legacy of Sigmund Freud*. London: Karnac Books.
- Morgan, D. L. (2007). Paradigms Lost and Pragmatism Regained: Methodological Implications of Combining Qualitative and Quantitative Methods. *Journal of Mixed Methods Research*, 1(1), 48-76.
- Morgan, J. H. (2011). Psychology of religion and the books that made it happen. *Journal for the Study of Religions and Ideologies*, 10(30), 277-298.
- Moritz, S. E., Feltz, D. L., Fahrback, K. R., & Mack, D. E. (2000). The relation of self-efficacy measures to sport performance: A meta-analytic review. *Research Quarterly for Exercise and Sport*, 71(3), 280-294.
- Naour, P. (2009). *E.O. Wilson and B.F. Skinner: A dialogue between sociobiology and radical behaviorism*. New York: Springer.

National Catholic Education Commission. (2009, 16/11/2014). Religious Education Accreditation Policy. Retrieved from

http://www.ncec.catholic.edu.au/index.php?option=com_content&view=article&id=70:religious-education-accreditation-policy&catid=36:policies&Itemid=64

National Catholic Education Commission. (2013). Australian Catholic Schools 2012.

Retrieved from National Catholic Education Commission website:

http://www.ncec.catholic.edu.au/index.php?option=com_docman&task=doc_download&gid=221&Itemid=53

National Catholic Education Commission. (2016). *Annual Report 2015*. Retrieved from

Sydney: <http://www.ncec.catholic.edu.au/resources/publications/424-2015-annual-report/file>

National Catholic Education Commission. (2018a). *Annual Report 2017*. Retrieved from Sydney NSW:

<https://www.ncec.catholic.edu.au/resources/publications/490-2017-annual-report/file>

National Catholic Education Commission. (2018b). *Religious Education in Australian Catholic Schools - Framing Paper*. Retrieved from Sydney, Australia:

https://www.ncec.catholic.edu.au/images/NCEC_Framing_Paper_Religious_Education.pdf

Neyman, J. (1934). On the Two Different Aspects of the Representative Method: The Method of Stratified Sampling and the Method of Purposive Selection, 558.

O'Donoghue, T. (2004). Rescuing Lay Teachers in Catholic Schools from Anonymity for the Period 1870-1970. *Education, research and perspectives*, 31(2), 78-93.

- O'Donoghue, T. (2014). Historical inquiry into the construction of religion as a school subject for Catholic schools in Australia. *Ejournal of Catholic education in Australasia*, 1(1).
- O'Farrell, P. J. (1969). *The Catholic Church in Australia: A short history, 1788-1967*. London: Chapman.
- Ødegård, A., & Bjørkly, S. (2012). A mixed method approach to clarify the construct validity of interprofessional collaboration: An empirical research illustration. *Journal of Interprofessional Care*, 26(4), 283.
doi:10.3109/13561820.2011.652784
- Oman, D. (2013). Spiritual modeling and the social learning of spirituality and religion. In K. I. Pargament, J. J. Exline, J. W. Jones, K. I. Pargament, J. J. Exline, & J. W. Jones (Eds.), *APA handbook of psychology, religion, and spirituality (Vol 1): Context, theory, and research*. (pp. 187-204). Washington, DC, US: American Psychological Association.
- Onwuegbuzie, A. J., & Collins, K. M. T. (2007). A Typology of Mixed Methods Sampling Designs in Social Science Research. *Qualitative Report*, 12(2), 281-316.
- Oxhandler, H. K., & Parrish, D. E. (2018). Integrating clients' religion/spirituality in clinical practice: A comparison among social workers, psychologists, counselors, marriage and family therapists, and nurses. *Journal of Clinical Psychology*, 74(4), 680-694. doi:10.1002/jclp.22539
- Oyserman, D., Coon, H. M., & Kemmelmeier, M. (2002). Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-analyses. *Psychological bulletin*, 128(1), 3-72. doi:10.1037/0033-2909.128.1.3

- Pace, E. M., & Aiello, P. (2016). *How influential is a continuous professional development course on teacher efficacy, attitudes and concerns towards the implementation of inclusive classroom practices?* Paper presented at the 9th International Conference of Education, Research and Innovation.
- Pajares, F., & Urdan, T. C. (2006). *Self-efficacy beliefs of adolescents*. Greenwich, Conn: IAP - Information Age Pub., Inc.
- Paletz, S. B. F., & Schunn, C. D. (2010). A social-cognitive framework of multidisciplinary team innovation. *Topics in Cognitive Science*, 2(1), 73-95. doi:10.1111/j.1756-8765.2009.01029.x
- Pargament, K. I. (1997). *The psychology of religion and coping : theory, research, practice*. New York: Guilford Press.
- Pargament, K. I. (2013a). *APA handbook of psychology, religion, and spirituality*. Washington, D.C.: American Psychological Association.
- Pargament, K. I. (2013b). Searching for the sacred: Toward a nonreductionistic theory of spirituality. In K. I. Pargament, J. J. Exline, J. W. Jones, K. I. Pargament, J. J. Exline, & J. W. Jones (Eds.), *APA handbook of psychology, religion, and spirituality (Vol 1): Context, theory, and research*. (pp. 257-273). Washington, DC, US: American Psychological Association.
- Pargament, K. I. (2013c). Spirituality as an irreducible human motivation and process. *The International Journal for the Psychology of Religion*, 23(4), 271-281. doi:10.1080/10508619.2013.795815
- Pargament, K. I., Magyar-Russell, G. M., & Murray-Swank, N. A. (2005). The Sacred and the Search for Significance: Religion as a Unique Process. *Journal of Social Issues*, 61(4), 665-687. doi:10.1111/j.1540-4560.2005.00426.x

- Park, C. L. (2017). Distinctions to Promote an Integrated Perspective on Meaning: Global Meaning and Meaning-Making Processes. *Journal of constructivist psychology*, 30(1), 14-19.
- Park, C. L., Edmondson, D., & Hale-Smith, A. (2013). Why religion? Meaning as motivation. In K. I. Pargament, J. J. Exline, J. W. Jones, K. I. Pargament, J. J. Exline, & J. W. Jones (Eds.), *APA handbook of psychology, religion, and spirituality (Vol 1): Context, theory, and research*. (pp. 157-171). Washington, DC, US: American Psychological Association.
- Parker, P. D., Marsh, H. W., Ciarrochi, J., Marshall, S., & Abduljabbar, A. S. (2014). Juxtaposing math self-efficacy and self-concept as predictors of long-term achievement outcomes. *Educational psychology (Dorchester-on-Thames)*, 34(1), 29-48. doi:10.1080/01443410.2013.797339
- Paul VI, P. (1965). Gravissimum Educationis - Declaration on Christian Education. Retrieved from http://www.vatican.va/archive/hist_councils/ii_vatican_council/documents/vat-ii_decl_19651028_gravissimum-educationis_en.html
- Pearce, L. D. (2012). Mixed Methods Inquiry in Sociology. *American Behavioral Scientist*, 56(6), 829-848. doi:10.1177/0002764211433798
- Piedmont, R. L., & Wilkins, T. A. (2013). Spirituality, religiousness, and personality: Theoretical foundations and empirical applications. In K. I. Pargament, J. J. Exline, J. W. Jones, K. I. Pargament, J. J. Exline, & J. W. Jones (Eds.), *APA handbook of psychology, religion, and spirituality (Vol 1): Context, theory, and research*. (pp. 173-186). Washington, DC, US: American Psychological Association.

- Pinar, K., Turhan, T., Mehmet, M., & Fikret, S. (2013). "Self-efficacy scale for teachers"-Preliminary study. *International Journal of Human Sciences*, 10, 163-169.
- Pisa, D. (2012). *Middle school science teachers' teaching self-efficacy and students' science self-efficacy*. (Master of Arts Thesis), California State University, Michigan.
- Pluta, W. J., Richards, B. F., & Mutnick, A. (2013). PBL and beyond: Trends in collaborative learning. *Teaching and Learning in Medicine*, 25(1), 9-16.
- Pope Francis. (2013). *Address of Pope Francis to the Studnets of the Jesuit Schools of Italy and Albania*, Vatican
- Pope Francis. (2014). ADDRESS OF POPE FRANCIS TO PARTICIPANTS IN THE PLENARY SESSION OF THE CONGREGATION FOR CATHOLIC EDUCATION (FOR EDUCATIONAL INSTITUTIONS). Retrieved from http://w2.vatican.va/content/francesco/en/speeches/2014/february/documents/pa-pa-francesco_20140213_congregazione-educazione-cattolica.pdf
- Popper, M. (2007). The building blocks of leader development A psychological conceptual framework. *Leadership & organization development journal*, 28(7), 664-684. doi:10.1108/01437730710823905
- Punch, K. (2003). *Survey Research : The Basics*. London ; Thousand Oaks, CA: Sage Publications.
- Punch, K., & Punch, K. (2003). *Survey research : the basics*. London ; Thousand Oaks, Calif.: Sage Publications.
- Queensland Catholic Education Commission. (2014). Social Justice in Catholic Schoolss: A document to assist reflection on present practice or in the

introduction of a new program, 4. Retrieved from <http://qcec.catholic.edu.au/wp-content/uploads/2015/12/Social-Justice-in-Catholic-Schools-2014-4-24.pdf>

Ramanathan, U. (2014). Performance of supply chain collaboration - A simulation study. *Expert Systems With Applications*, 41(1), 210-220.

doi:10.1016/j.eswa.2013.07.022

Rattan, A., Good, C., & Dweck, C. S. (2012). "It's ok — Not everyone can be good at math": Instructors with an Entity Theory comfort (and demotivate) students.

Journal of Experimental Social Psychology, 48(3), 731-737.

doi:10.1016/j.jesp.2011.12.012

Raudenbush, S. W., Rowan, B., & Cheong, Y. F. (1992). Contextual effects on the self-perceived efficacy of high school teachers. *Sociology of Education*, 65(2), 150-167.

Reich, K. H. (1998). Psychology of religion: What one needs to know. *Zygon*, 33(1), 113-120. doi:10.1111/0591-2385.1301998130

Reichardt, C. S., & Cook, T. D. (1979). *Qualitative and quantitative methods in evaluation research*: Beverly Hills, Calif. : Sage Publications, c1979.

Reips, U.-D. (2010). Design and formatting in Internet-based research. In S. D. Gosling, J. A. Johnson, S. D. Gosling, & J. A. Johnson (Eds.), *Advanced methods for conducting online behavioral research*. (pp. 29-43). Washington, DC, US: American Psychological Association.

Rempel, M. H. (1997). Understanding Freud's Philosophy of Religion. *Canadian Journal of Psychoanalysis*, 5(2), 215.

- Richards, M., Elliott, A., Woloshyn, V., & Mitchell, C. (2001). *Collaboration uncovered: The forgotten, the assumed and the unexamined*. Westport, CT: Greenwood Press.
- Riveros, A. (2012). Beyond collaboration: Embodied teacher learning and the discourse of collaboration in education reform. *Studies in Philosophy and Education*, 31(6), 603-612. doi:10.1007/s11217-012-9323-6
- Roberts, C. K. (1992). *Some determinants of collective efficacy*. (Master of Arts Thesis), Central Michigan University, Michigan.
- Rockwell, J. (1950). SOCIAL CHANGE AND THE IMPLICATIONS OF FLEXIBILITY IN THE HUMAN ORGANISM. *Journal of Educational Sociology*, 23(4), 337.
- Roehlkepartain, E. C., Benson, P. L., Scales, P. C., Kimball, L., & King, P. E. (2008). *With Their Own Voices: A Global Exploration of How Today's Young People Experience and Think about Spiritual Development*. Retrieved from Minneapolis: https://www.search-institute.org/wp-content/uploads/2018/02/with_their_own_voices_report.pdf
- Rohde, C. A. (2014). *Introductory statistical inference with the likelihood function*. New York: Springer.
- Romand, D. (2012). Fechner as a pioneering theorist of unconscious cognition. *Consciousness and Cognition*, 21(1), 562-572.
doi:10.1016/j.concog.2012.01.003
- Rossman, G. B., & Rallis, S. F. (2012). *Learning in the field : an introduction to qualitative research* (3rd ed.): Thousand Oaks : SAGE.

- Rossmann, G. B., & Wilson, B. L. (1985). NUMBERS AND WORDS - COMBINING QUANTITATIVE AND QUALITATIVE METHODS IN A SINGLE LARGE-SCALE EVALUATION STUDY. *Evaluation Review*, 9(5), 627-643.
doi:10.1177/0193841x8500900505
- Rotter, J. B. (1954). *Social learning and clinical psychology*. Englewood Cliffs: Prentice Hall.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78. doi:10.1037/0003-066x.55.1.68
- Rymarz, R. (2017). *Religious Education in Australian Catholic Schools - Exploring the Landscape* (R. Rymarz & A. Belmonte Eds.). Mulgrave, VIC: Vaughan Publishing.
- Salas, E., Vessey, W., & Estrada, A. (2015). *Team cohesion : advances in psychological theory, methods and practice* (E. Salas, W. Vessey, & A. Estrada Eds.). Bingley, England: Emerald.
- Sarrazin, P., Leroy, N., Bressoux, P., Sarrazin, P., & Trouilloud, D. (2007). Impact of teachers' implicit theories and perceived pressures on the establishment of an autonomy supportive climate, 529.
- Sawyer, R. K. (2006). Group creativity: Musical performance and collaboration. *Psychology of Music*, 34(2), 148-165. doi:10.1177/0305735606061850
- Schein, E. H. (1990). Organizational culture. *American Psychologist*, 45(2), 109-119.
doi:10.1037/0003-066X.45.2.109
- Schippers, J. L. (2012). *Goals, reflection, and students' mathematics self-efficacy*. (Master of Science in Education Thesis), University of Kansas, Michigan.

- Schmitt, M. (2006). Conceptual, Theoretical, and Historical Foundations of Multimethod Assessment. In M. Eid, E. Diener, M. Eid, & E. Diener (Eds.), *Handbook of multimethod measurement in psychology*. (pp. 9-25). Washington, DC, US: American Psychological Association.
- Schnabel, L. (2017). Gendered Religiosity. *Review of Religious Research*, 59(4), 547-556. doi:10.1007/s13644-017-0302-9
- Schofield, M. B., Baker, I. S., Staples, P., & Sheffield, D. (2016). Mental representations of the supernatural: A cluster analysis of religiosity, spirituality and paranormal belief. *Personality and Individual Differences*, 101, 419-424. doi:10.1016/j.paid.2016.06.020
- Schrage, M. (1990). *Shared minds: The new technologies of collaboration*. New York, NY: Random House Inc.
- Schroder, H. M., & Rotter, J. B. (1954). Generalization of expectancy changes as a function of the nature of reinforcement. *Journal of Experimental Psychology*, 48(5), 343-348. doi:10.1037/h0058823
- Schumacher, D. F. (2009). *Collective teacher efficacy and student achievement*. (Doctor of Education Dissertation), West Illinois University, Michigan.
- Schunk, D. (1991). Self-efficacy and academic motivation. *Educational Psychologist*, 26(3), 207-231. doi:10.1207/s15326985ep2603&4_2
- Senge, P. M. (2006). *The fifth discipline : The art and practice of the learning organization* (Rev. and updated. ed.). New York: Doubleday/Currency.
- Sepahmansour, M., & Bayat, M. (2011). Normalization of teacher self-efficacy scale. *World Applied Sciences Journal*, 13(1), 114-118.

- Shelbourn, M., Bouchlaghem, N. M., Anumba, C., & Carrillo, P. (2007). Planning and implementation of effective collaboration in construction projects. *Construction Innovation*, 7(4), 357-377. doi:10.1108/14714170710780101
- Shelley, A. K., & Edwin, A. L. (1991). Leadership: Do Traits Matter? *The Executive*, 5(2), 48.
- Shrum, W., Chompalov, I., & Genuth, J. (2001). Trust, conflict and performance in scientific collaborations. *Social Studies of Science*, 31(5), 681-730. doi:10.1177/030631201031005002
- Sirotnik, K. A. (1980). PSYCHOMETRIC IMPLICATIONS OF THE UNIT-OF-ANALYSIS PROBLEM (WITH EXAMPLES FROM THE MEASUREMENT OF ORGANIZATIONAL CLIMATE). *Journal of Educational Measurement*, 17(4), 245.
- Skaalvik, E. M., Federici, R. A., & Klassen, R. M. (2015). Mathematics achievement and self-efficacy: Relations with motivation for mathematics. *International Journal of Educational Research*, 72, 129-136. doi:10.1016/j.ijer.2015.06.008
- Skaalvik, E. M., & Skaalvik, S. (2007). Dimensions of Teacher Self-Efficacy and Relations with Strain Factors, Perceived Collective Teacher Efficacy, and Teacher Burnout. *Journal of Educational Psychology*, 99(3), 611-625.
- Skevington, S. M. (2010). Qualities of life, educational level and human development: an international investigation of health. *Social psychiatry and psychiatric epidemiology*, 45(10), 999-1009. doi:10.1007/s00127-009-0138-x
- Skinner, B. F. (1950). Are theories of learning necessary? *Psychological review*, 57(4), 193-216. doi:10.1037/h0054367
- Skinner, B. F. (1974). *About behaviourism*. London: Jonathan Cape.

Skinner, B. F. (1981). Selection by consequences. *Science*, 213(4507), 501-504.

doi:10.1126/science.7244649

Smith, J. K., & Heshusius, L. (1986). Closing down the Conversation: The End of the Quantitative-Qualitative Debate among Educational Inquirers, 4.

Snijders, T. A. B., & Bosker, R. J. (1999). *Multilevel analysis : an introduction to basic and advanced multilevel modeling*. London ; Thousand Oaks, Calif.: Sage Publications.

Squire, C., et al. (2014). What is narrative research? Starting out *What is Narrative Research?* (1 ed., pp. 1-22). New York: Bloomsbury Academic.

Standing Committee on Employment, E. a. T. (2019). Status of the Teaching Profession. Retrieved from

<https://www.aph.gov.au/~media/02%20Parliamentary%20Business/24%20Committees/243%20Reps%20Committees/Education%20and%20Employment/Status%20of%20the%20teaching%20profession/Summary%20of%20Issues%20Arising%20from%20Public%20Hearings.pdf?la=en>

Steger, M. F. (2017). Meaning in life and wellbeing. In M. Slade, L. Oades, A. Jarden, M. Slade, L. Oades, & A. Jarden (Eds.), *Wellbeing, recovery and mental health*. (pp. 75-85). New York, NY, US: Cambridge University Press.

Stoll, L., & Seashore Louis, K. (2007). *Professional learning communities: Divergence, detail, difficulties*. Maidenhead: Open University Press Maidenhead.

Strang, A. J., et al. (2011). Collaboration technologies improve performance and communication in air battle management. *Military Psychology*, 23(4), 390-409. doi:10.1037/h0094764

- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Boston: Pearson Education.
- Taylor, M. J., Hallam, P. R., Charlton, C. T., & Wall, D. G. (2014). Formative assessment of collaborative teams (FACT): Development of a grade-level instructional team checklist. *National Association of Secondary School Principals Bulletin*, 98(1), 26-52.
- Teddlie, C., & Tashakkori, A. (2003). *Handbook of mixed methods in social & behavioral research*: Thousand Oaks, Calif. : SAGE Publications.
- The Alberta Commission on Learning. (2003). *Every child learns, every child succeeds: Report and recommendations* (0778526003). Retrieved from Edmonton: <https://open.alberta.ca/dataset/b0ad8515-edad-419a-968d-a30ec9975901/resource/491dd557-1f9a-4184-a3b1-c72e543c0168/download/commissionreport.pdf>
- Thompson, S. K. (2012). *Sampling* (3rd Edition ed.). New York: Wiley.
- Thomson, A. M., Perry, J. L., & Miller, T. K. (2007). Conceptualizing and measuring collaboration. *Journal of Public Administration Research and Theory*, 19(1), 23-56. doi:10.1093/jopart/mum036
- Tomasello, M., Carpenter, M., Call, J., Behne, T., & Moll, H. (2005). Understanding and sharing intentions: The origins of cultural cognition. *Behavioral and Brain Sciences*, 28(5), 675. doi:10.1017/s0140525x05000129
- Tomasello, M., & Herrmann, E. (2010). Ape and human cognition: What's the difference? *Current Directions in Psychological Science*, 19(1), 3-8. doi:10.1177/0963721409359300

- Trickett, E. J., & Espino, S. L. R. (2004). Collaboration and social inquiry: Multiple meanings of a construct and its role in creating useful and valid knowledge. *American journal of community psychology*, 34(1-2), 1-69.
doi:10.1023/B:AJCP.0000040146.32749.7d
- Tryon, W. W. (1981). A methodological critique of Bandura's self-efficacy theory of behavior change. *Journal of behavior therapy and experimental psychiatry*, 12(2), 113-114. doi:10.1016/0005-7916(81)90003-3
- Tschannen-Moran, M., Hoy, W. K., & Hoy, A. W. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research*, 68(2), 202-248.
doi:10.3102/00346543068002202
- Tschannen-Moran, M., Uline, C., Woolfolk Hoy, A., & Mackley, T. (2000). Creating smarter schools through collaboration. *Journal of Educational Administration*, 38(3), 247-272. doi:10.1108/09578230010342312
- Tuchman, E., & Isaacs, J. (2011). The influence of formal and informal formative pre-service experiences on teacher self-efficacy. *Educational Psychology*, 31(4), 413-433. doi:10.1080/01443410.2011.560656
- Tuten, T. L. (2010). Conducting online surveys. In S. D. Gosling, J. A. Johnson, S. D. Gosling, & J. A. Johnson (Eds.), *Advanced methods for conducting online behavioral research*. (pp. 179-192). Washington, DC, US: American Psychological Association.
- Tyler, P. (2016). 'The Return of the Soul': Psychology, Theology and Soul-Making. *New Blackfriars*, 97(1068), 187-201. doi:10.1111/nbfr.12194
- Uwland-Sikkema, N. F., Visser, A., Westerhof, G. J., & Garssen, B. (2018). How is spirituality part of people's meaning system? *Psychology of Religion and*

Spirituality, 10(2), 157-165.

doi:<http://dx.doi.org.ezproxy.uow.edu.au/10.1037/rel0000172>

- Valle, A., Regueiro, B., Rodriguez, S., Pineiro, I., & Freire, C. (2015). Motivational profiles as a combination of self-efficacy expectations and academic goals in university students. *European journal of education and psychology*, 8(1), 1-8.
- Vancouver, J. B. (2012). Rhetorical Reckoning: A Response to Bandura. *Journal of Management*, 38(2), 465-474. doi:10.1177/0149206311435951
- Vaughn, P., & Turner, C. (2016). Decoding via Coding: Analyzing Qualitative Text Data Through Thematic Coding and Survey Methodologies. *Journal of Library Administration*, 56(1), 41-51. doi:10.1080/01930826.2015.1105035
- Victorian Curriculum and Assessment Authority. (2007). The Victorian Essential Learning Standards. In vels_overview.pdf (Ed.). Melbourne: Victorian Curriculum and Assessment Authority.
- Waldman, D. A., Balthazard, P. A., & Peterson, S. J. (2011). Social cognitive neuroscience and leadership. *The leadership quarterly*, 22(6), 1092-1106. doi:10.1016/j.leaqua.2011.09.005
- Wang, L., Li, J., Tan, L., & Lee, L. (2017). Contextualizing Teacher Efficacy in a High-Performing System: A Research Agenda. *British journal of educational studies*, 65(3), 385-403. doi:10.1080/00071005.2016.1277016
- Webb, E. T. (1973). *Unobtrusive measures : nonreactive research in the social sciences*: Chicago : Rand McNally, 1966, reprinted 1973.
- Weddell, S. (2017). Discipleship: the key to vocations. *Horizon: Journal of the National Religious Vocation Conference*, 42(1), 15.

- Weiner, B. (1985). An attributional theory of achievement, motivation and emotion. *Psychological review*, 92(4), 548-573. doi:10.1037/0033-295X.92.4.548
- Weisberg, H. F., Krosnick, J. A., & Bowen, B. D. (1996). *An introduction to survey research, polling, and data analysis* (3rd ed.). Thousand Oaks, Calif.: Sage Publications.
- Weldon, P. R. (2015). THE TEACHER WORKFORCE IN AUSTRALIA: SUPPLY, DEMAND AND DATA ISSUES. *Policy Insights*, (2), 17. Retrieved from <http://research.acer.edu.au/cgi/viewcontent.cgi?article=1001&context=policyinsights>
- White, J., Lyons, J., & Swindler, S. (2007). Organizational collaboration: effects of rank on collaboration. 53-56. doi:10.1145/1362550.1362563
- Whitehead, K. (2001). 'Religious first - teachers second': Catholic elementary schooling in nineteenth-century South Australia. *Change (Sydney, N.S.W.)*, 4(1), 63-75.
- Wigfield, A., & Eccles, J. S. (2000). Expectancy-value theory of achievement motivation. *Contemporary Educational Psychology*, 25(1), 68-81. doi:10.1006/ceps.1999.1015
- Wolters, C. A., & Hussain, M. (2015). Investigating grit and its relations with college students' self-regulated learning and academic achievement. *Metacognition and learning*, 10(3), 293-311. doi:10.1007/s11409-014-9128-9
- Wood, R., & Bandura, A. (1989). Social Cognitive Theory of Organizational Management. *Academy of Management Review*, 14(3), 361-384. doi:10.5465/AMR.1989.4279067
- Woods, J. L., & Hensel, D. J. (2018). Religious Affiliation, Religiosity, and Spirituality in Pediatric Residents: Effects on Communication and Self-Efficacy with

- Adolescents in a Clinical Setting. *Journal of Religion & Health*, 57(2), 636-648.
doi:10.1007/s10943-017-0509-7
- Woodward, J. (2005). *Making things happen : a theory of causal explanation* / James Woodward: New York ; Oxford : Oxford University Press, 2005.
- Wright, K. (2006). Researching Internet-Based Populations: Advantages and Disadvantages of Online Survey Research, Online Questionnaire Authoring Software Packages, and Web Survey Services. *Journal of Computer-Mediated Communication*, 10(3), 00-00. doi:10.1111/j.1083-6101.2005.tb00259.x
- Wulff, D. M. (1997). *Psychology of religion: Classic and contemporary*. New York: John Wiley & Sons.
- Yin, R. K. (2018). *Case study research and applications : design and methods* (Sixth edition. ed.). Los Angeles: SAGE.
- Zee, M., & Koomen, H. M. Y. (2016). Teacher Self-Efficacy and Its Effects on Classroom Processes, Student Academic Adjustment, and Teacher Well-Being A Synthesis of 40 Years of Research. *Review of Educational Research*, 86(4), 981-1015. doi:10.3102/0034654315626801
- Zee, M., & Koomen, H. M. Y. (2016). Teacher Self-Efficacy and Its Effects on Classroom Processes, Student Academic Adjustment, and Teacher Well-Being: A Synthesis of 40 Years of Research. *Review of Educational Research*, 86(4), 981-1015. doi:10.3102/0034654315626801
- Zhou, J., & Urhahne, D. (2013). Teacher judgment, student motivation, and the mediating effect of attributions. *European Journal of Psychology of Education*, 28(2), 275-295. doi:10.1007/s10212-012-0114-9

Zwingmann, C., Klein, C., & Büssing, A. (2011). Measuring Religiosity/Spirituality: Theoretical Differentiations and Categorization of Instruments. *Religions*, 2(3), 345-357. doi:<http://dx.doi.org/10.3390/rel2030345>

8. APPENDICES

Appendix 1

University of Wollongong Ethics Approval

APPROVAL LETTER

In reply please quote: HE15/320

20 August 2015

Mr Greg Elliott

Dear Mr Elliott

Thank you for your response dated 15 August 2015 to the HREC review of the application detailed below. I am pleased to advise that the application has been approved.

For future reference, please note that responses to the Committee's review comments should be addressed individually in a separate document rather than amending the original ethics application. In addition, any revised documents should be submitted with changes tracked to allow the Committee to locate changes easily.

Ethics Number: HE15/320

Project Title: A Social Cognitive Investigation of Teaching Religious Education in Australian Catholic High School

Researchers: Mr Greg Elliott, Honorary Professor John McCormick, A/Prof Narottam Bhindi

Documents Approved:

1. Revised Ethics Application
2. Participant Information Sheet for Religious Education coordinators V2 – 15/8/15
3. Participant Information Sheet for Catholic High School Teachers of Religious Education V2 – 15/8/15
4. REC Questionnaire V2 – 15/8/15
5. RE Teacher Questionnaire V4 – 15/8/15
6. Telephone Interview Verbal Consent request V2 – 15/8/15
7. Approval Letter from Catholic Education Diocese of Wollongong is noted
8. Email to School Principal

Approval Date: 20 August 2015

Expiry Date: 19 August 2016

The University of Wollongong/Illawarra Shoalhaven Local Health District Social Sciences HREC is constituted and functions in accordance with the NHMRC *National Statement on Ethical Conduct in Human Research*. The HREC has reviewed the research proposal for compliance with the *National Statement* and approval of this project is conditional upon your continuing compliance with this document.

Approval by the HREC is for a twelve month period. Further extension will be considered on receipt of a progress report prior to expiry date. Continuing approval requires:

- The submission of a progress report annually and on completion of your project. The progress report template is available at <http://www.uow.edu.au/research/ethics/human/index.html>. This report must be completed, signed by the researchers and the appropriate Head of Unit, and returned to the Research Services Office prior to the expiry date.
- Approval by the HREC of any proposed changes to the protocol including changes to investigators involved
- Immediate report of serious or unexpected adverse effects on participants
- Immediate report of unforeseen events that might affect continued ethical acceptability of the project.

If you have any queries regarding the HREC review process, please contact the Ethics Unit on phone 4221 3386 or email rso-ethics@uow.edu.au.

Yours sincerely

Associate Professor Melanie Randle
**Chair, UOW Social Sciences
Human Research Ethics Committee**

UNIVERSITY OF WOLLONGONG
HUMAN RESEARCH ETHICS COMMITTEE
PROGRESS / FINAL REPORT

HREC Approval No: **HE15/320**

Expiry Date: **19 August 2016**

Project Title: **A Social Cognitive Investigation of Teaching Religious Education in Australian Catholic High Schools**

Chief Investigator: **Greg Elliott**

General Notes and Conditions

The National Statement on Ethical Conduct in Research Involving Humans requires institutions to monitor research projects involving human participants to ensure that they are conducted ethically and in compliance with the HREC approval for that project, including any conditions placed on that approval.

For the most part, the monitoring requirement will be satisfied by the chief investigator:

- o notifying the HREC immediately of any serious or unexpected adverse effects on participants;
- o notifying the HREC of any proposed changes to the protocol or procedures to be used in the research;
- o notifying the HREC of unforeseen events that might affect continued ethical acceptability of the project;
- o providing the HREC with an annual report on the project; and
- o providing the HREC with a report at the completion of the project.

In special circumstances, the HREC may ask for more frequent reports and may require additional monitoring if it considers this necessary to ensure that the project continues to conform to ethical standards. While the principal objective of monitoring is to ensure that the rights and interests of human participants are not jeopardised, it is also concerned to foster responsible research.

This form is to be used for:

- o Reports of serious or unexpected adverse effects on participants;
- o Reports of proposed changes to protocols/projects;
- o Reports of unforeseen events that might affect ethical acceptability of projects;
- o Annual reports on approved research project;
- o Request for renewal of approval; and
- o Final reports on projects at the completion of research

Please complete this report, referring back where necessary to your application for ethics clearance, which is the approved protocol, and any special conditions imposed by the HREC. If there is insufficient space to answer any question, please attach a separate sheet. If a question does not apply to your research, please write "N/A" or "not applicable" in the space provided.

Please return your completed report within 14 days to the Human Research Ethics Officer, Research Office, University of Wollongong, Wollongong NSW 2522 (Ph: 4221 4457; Fax: 4221 4338).

TO BE COMPLETED FOR ALL RESEARCH PROJECTS INVOLVING HUMAN PARTICIPANTS.

Please tick where appropriate.

1. Purpose of this report (tick as many as are appropriate):

- ☐ Report of serious or unexpected adverse effects on participants
- ☐ Report of proposed changes to the protocol/project
- ☐ Report of unforeseen events that might affect ethical acceptability of the project
- ☐ Annual report on approved research project
- ☒ Request for renewal of approval
- ☐ Final report on project
-

2. Status of Research Project

- ☐ Completed (date) _____
- ☐ In progress. Anticipated completion date of Research Project _____
- ☒ Renewal of approval requested until (date) 19 August 2017
- ☐ Commenced but abandoned on (date) _____
(please give below brief reasons why the project was abandoned, then sign and return this report.)
-

3. Report on ethical aspects of project to date (or outcome in the case of completed research). Please detail method of contact with participants, number of participants involved, and the nature of their involvement in the research. Please comment on whether the research has complied with the approved protocol and any conditions of that approval from the HREC.

- The research complied with all of the requirements and protocols set out in HE15/320
- 18 Catholic dioceses were approached to seek permission to conduct research
- 17 Catholic dioceses consented
- All Dioceses imposed a range of conditions which were in alignment with the conditions of HE15/320
- 96 schools were approached. 46 agreed to participate
- 347 teachers began the online survey instrument. 309 consented and entered data into the survey. 38 declined to give their consent and did not proceed with the online survey.
- 57 teachers offered their contact details to be involved in the follow up interview
- No teachers have yet been invited to participate in the follow up interview
- The collection of quantitative data is complete, and the online survey has been deactivated

4. In the conduct of this project, have there been any variations to the approved protocol/project in respect of:

- | | |
|---|----|
| * Investigators? | No |
| * Duration of Project (e.g. 1 year, 3 years) ? | No |
| * Research procedures (e.g. study design, sample size, source & method of recruitment, information & consent forms) ? | No |
| * Participant care & feedback ? | No |

If you have answered YES to any part of this question:

- | | |
|--|----|
| * Has the HREC been previously notified of this event? | NA |
|--|----|

- Σ Please provide brief details of the reasons for variations and how you will accommodate any problems they may pose for your research.
- Σ For Multicentre research, please provide a list of the Protocol Amendment numbers relevant to the research and a summary of the amendments for the year to date.

5. Are any variations to the approved protocol/project proposed? If so, please detail below, noting that they must be approved by the HREC (attach an extra sheet if needed).

No variations

6. Since your project commenced, how many participants have "dropped out"/withdrawn their consent?

38 teachers accessed the online survey but declined to give their consent to participation.

Briefly list the reasons (if known) for participants dropping out/withdrawing from the project.
Unknown.

7. **To the best of your knowledge, have any participants encountered adverse effects while participating in your research project? (e.g. side-effects of drugs or procedures, or other phenomena)**

No

If YES: Number of participants involved _____

Briefly list adverse effects (attach and extra page if necessary).

**For Multicentre research, please attach a list and summary of Serious Adverse Event reports
(for Australia only) relevant to this research for the year to date.**

Were all these effects anticipated in the Consent documents?	Yes	No
Have these adverse effects been previously reported to the HREC?	Yes	No
What other action has been taken in response to these adverse effects?		

8. **Have there been any other unforeseen incidents or complaints about the research that might affect the continued ethical acceptability of the project? (e.g. reactions to questionnaires or psychological tests)**

No

If YES: Number of participants involved _____

Briefly list the incidents or complaints.

Have these events been previously reported to the HREC? NA

What other action has been taken in response to these incidents or complaints?

9. **Please comment on the methods used to store research data and any other personal information associated with this research**

All data is anonymized and is encrypted and stored on the lead researcher's computer until the completion of the study. Encrypted backups are also stored separately by the lead researcher.

Have you encountered any problems associated with security and storage of data?
(All primary data must be retained for a period of at least five years to conform with the University's Code of Practice- Research.)

No

If YES, give details

10. Is your research project a CTN* or CTX* drug trial?

No

*CTN = Clinical Trial Notification: CTX = Clinical Trial Exemption

If YES:

Have unused supplies of the trial drug been collected from participants?

Yes

No

Not applicable

Please attach one copy of the current information and consent package for this trial.

COMMENTS: Comments from you on ethical aspects relating to your research are very welcome.

DECLARATION:

I certify that the information provided by me in this Progress Report is an accurate account of the conduct of the above research project for which I am responsible and a copy of the Consent Form and Information Sheet used for this project is attached.

Signed (Chief Investigator)

Date: 23 August 2016

If Student is Chief Investigator, then Supervisor's signature is also required.

Supervisor: (Name- Please Print) Dr John McCormick

Unit/ Faculty: Education

Date 24 August 2016

**ALL REPORTS MUST BE SIGNED BY THE HEAD OF DEPARTMENT/UNIT
(This person must not be a member of the research team).**

Position_____

Name_____

Signature_____

Date_____

Appendix 2

Permission to Conduct Research in Sampled Dioceses



CATHOLIC EDUCATION
DIOCESE OF WOLLONGONG

Serving Catholic systemic school communities in the
Illawarra, Macarthur, Shoalhaven & Southern Highlands

ABN 67 786 923 621 • www.dow.catholic.edu.au

4 June 2015

Greg Elliott

Dear Greg,

Re: Application to undertake the research project entitled:
"A social cognitive investigation into Teaching Religious Education in Australian Catholic high schools"

Acknowledgement is made of your application to conduct the above mentioned doctoral research within the Diocese of Wollongong. Approval has been granted for you to proceed in the Diocese of Wollongong and to directly approach the Principals of our secondary schools.

As discussed in our previous meeting, your area of research has significant potential for identifying ways to improve the quality of Religious Education teaching in secondary schools. As acknowledged, this is a most challenging area yet one which has increasing importance for the mission of our Catholic school system. I am delighted that you are undertaking this particular research and that the focus will potentially be able to inform our work in this area. If there is anything I can do to support this project please do not hesitate to make further contact.

In accordance with the agreement permitting you to conduct your research within the Wollongong Diocese, I would ask that you provide a summary report of the project at your earliest convenience and within 6 months of the completion. Alternatively, inform me if the research project is discontinued, as this information will enable us to keep our records and files updated.

Please do not hesitate to contact me on 4253 0876 if you have any further enquiries.

I wish you well with this undertaking and look forward to receiving updates and your final report.

Yours sincerely,

Mark Raue
Professional Assistant to the Director
Strategic Planning & Policy

Office of the Director
Catholic Education, Diocese of Wollongong



CATHOLIC EDUCATION
OFFICE OF WESTERN AUSTRALIA

EXECUTIVE DIRECTOR OF CATHOLIC EDUCATION

13 October 2015

Mr Gregory Elliot

Dear Mr Elliot

**RE: SOCIAL COGNITIVE INVESTIGATION OF RELIGIOUS EDUCATION TEACHERS IN
AUSTRALIAN CATHOLIC HIGH SCHOOLS**

Thank you for your completed application received 21 September 2015, whereby this project seeks to examine the self-efficacy of Catholic high school teachers for teaching religious education.

I give in principle support for the selected secondary Catholic schools in Western Australia to participate in this valuable study. However, consistent with Catholic Education Western Australia (CEWA) policy, participation in your research project will be the decision of the individual principal and staff members. A copy of this letter must be provided to principals when requesting their participation in the research.

The condition of CEWA approval is that as your institute's HREC approval concludes before you envisage completing this research project, a new ethics approval letter from the University of Wollongong is to be forwarded to CEWA before it concludes on 19 August 2016.

Responsibility for quality control of ethics and methodology of the proposed research resides with the institution supervising the research. CEWA notes that the University of Wollongong Human Research Ethics Committee has granted permission for this research project until 19 August 2016 (Reference Number: HE15/320).

Any changes to the proposed methodology will need to be submitted for CEWA approval prior to implementation. The focus and outcomes of your research project are of interest to CEWA. It is therefore a condition of approval that the research findings of this study are forwarded to CEWA.

Further enquiries may be directed to Jane Gostelow at gostelow.jane@ceo.wa.edu.au or (08) 6380 5118.

I wish you all the best with your research.

Yours sincerely

Dr Tim McDonald



EXECUTIVE DIRECTOR OF CATHOLIC EDUCATION
50 Ruislip Street, Leederville WA 6007 | PO Box 198, Leederville WA 6903
T (08) 6380 5210
E mcdonald.tim@ceo.wa.edu.au W ceo.wa.edu.au



TASMANIAN
CATHOLIC
education office

28 October 2015

Mr Greg Elliott

Dear Greg

I write in response to your request for approval to conduct the research study '*A social cognitive investigation into teaching religious education in Australian Catholic high schools*' in two Tasmanian Catholic Colleges; St James, Cygnet and St Mary's, Hobart.

I am happy to grant in principle permission for this research study to be conducted in the Catholic schools identified in your application.

Please note however, that it is up to the individual school to determine whether they wish to participate in the study.

Please do not hesitate to contact this office if you require further information.

Yours sincerely

Mr John Mula
Director



6 October 2015

Ref: Research Application 960

Gregory Elliott

Dear Gregory,

RE: RESEARCH APPLICATION REF 960 – LETTER OF APPROVAL

Thank you for the submission of your application to conduct research in Archdiocesan Catholic Schools under the jurisdiction of the Catholic Education Office (CEO) Sydney. Approval is given by CEO Sydney to conduct this study. **This approval is granted subject to full compliance with NSW Child Protection and Commonwealth Privacy Act legislation.** It is the prerogative of any Principal or staff member whom you might approach to decline your invitation to be involved in this study or to withdraw from involvement at any time. Any study involving the participation of students will require written, informed consent by parents/guardians.

Permission is given for you to approach the Principals of the schools nominated, listed below, requesting participants for your study: ***“A Social Cognitive Investigation into teaching Religious Education in Australian Catholic High Schools”***.

*De La Salle Catholic College
All Saints Catholic Boys College
St Mary's Cathedral College
Domremy Catholic College
Freeman Catholic College*

*Cronulla
Liverpool
Sydney
Five Dock
Bonnyrigg Heights*

COMMONWEALTH PRIVACY ACT

The privacy of the school and that of any school personnel or students involved in your study must, of course, be preserved at all times and comply with requirements under the Commonwealth Privacy Amendment (Private Sector) Act 2000. In complying with this legislation, the CEO Sydney has decided that individual research participants should not be identified in the report.

FURTHER REQUIREMENTS

When you have established your participating schools, please **complete the attached form and return it** to this office.

It is a condition of approval that when your research has been completed you will forward a **summary report of the findings and/or recommendations** to this office as soon as results are to hand.

All correspondence relating to this Research should note 'Ref: Research Application 960'.

Please contact me at this office if there is any further information you require. I wish you well in this undertaking and look forward to learning about your findings.

Yours sincerely,



Dr Michael Bezzina
Director of Teaching and Learning
Email: research.centre@syd.catholic.edu.au

Greg Elliot
Doctoral Student
University of Wollongong
North Field Ave
Wollongong NSW 2522

Dear Greg

RE A Social Cognitive Investigation of Teaching Religious Education in Australian Catholic High School

Thank you for your email of 25 September 2015 in which you seek permission to conduct research in South Australian Catholic schools. I understand that you wish to conduct 30 minute online surveys with Religious Education teachers and that your research does not involve students.

In the normal course, permission of the principal of the school is required. Research in Catholic schools is granted on the basis that individual students, schools and the Catholic sector itself is not specifically identified in published research data and conclusions.

Approval is also contingent upon the following conditions, i.e. that:

- the permission of participating teachers has been obtained
- the research complies with the ethics proposal of the University of Wollongong
- the research complies with any provisions under the Privacy Act that may require adherence by you as researcher in gathering and reporting data
- no comparison between schooling sectors is made
- sector requirements relating to child protection and police checks are met by researchers:
 - where researchers obtain information in relation to a student which suggests or indicates abuse, this information must be immediately conveyed to the Director of Catholic Education SA
 - all researchers and assistants, who in the course of the research interact in any way with students, are required to provide evidence of a clearance letter issued by the Catholic Archdiocese of Adelaide Police Check Unit (ph:08 8210 8287) or another form of acceptable police clearance.

Please accept my very best wishes for the research process.

Yours sincerely

RAY MORITZ
ACTING ASSISTANT DIRECTOR

October 2015

5 November 2015

Greg Elliott

BENDIGO OFFICE
PO Box 477(120 Hargreaves Street)
BENDIGO VIC 3550
T 03 5443 2377 F 03 5441 5168

WANGARATTA OFFICE
PO Box 1181 (71 Ryley Street)
WANGARATTA VIC 3677
T 03 5723 0000 F 03 5723 0033

SHEPPARTON OFFICE
c/- St Brendan's Presbytery
121 Knight Street
SHEPPARTON VIC 3630
T 03 5831 3811 F 03 5821 3077

342

BENDIGO OFFICE
PO Box 477(120 Hargreaves Street)
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T 03 5443 2377 F 03 5441 5168

WANGARATTA OFFICE
PO Box 1181 (71 Ryley Street)
WANGARATTA VIC 3677
T 03 5723 0000 F 03 5723 0033

SHEPPARTON OFFICE
c/- St Brendan's Presbytery
121 Knight Street
SHEPPARTON VIC 3630
T 03 5831 3811 F 03 5821 3077

Dear Greg

A Social Cognitive Investigation into Teaching RE in Australian Catholic High Schools

I am pleased to advise that, in relation to schools in the Diocese of Sandhurst, your research proposal is approved subject to the following standard conditions:

1. The decision as to whether or not research can proceed in a school rests with the Principal of that school. You will therefore need to obtain approval directly from the Principal of each school that you wish to involve.
2. You should provide each Principal with an outline of your research proposal and indicate what will be asked of the school. A copy of this letter of approval and a copy of the notification of approval from the relevant Ethics Committee should also be included.
3. No student is to participate in research study unless s/he is willing to do so and informed consent is given by a parent/guardian.
4. You should provide a list of schools which have agreed to participate in the research project to the Professional Development section of this Office.
5. Any substantive modifications to the research proposal, or additional research using the data collected, will require a further research proposal approval submission to this Office.
6. Data relating to individuals or schools is to remain confidential.
7. Since participating schools have an interest in the research findings, you should discuss with each Principal ways in which the results of the study could be made available for the benefit of the school community.
8. At the conclusion of the study a copy of the research findings should be forwarded to

Catholic Education Office, Sandhurst

Attn: Assistant to the Director: Governance, Research & Communication

(Note: should the research be carried out over more than one year, a progress report is required each December)

I wish you well with your research study. If you have any queries concerning this matter, please contact Rosemary Rasmussen (Tel: 5443 2377) of this Office.

Yours sincerely


Philip Bretherton

Assistant to the Director: Governance, Research & Communication



Greg Elliott

School of Education
Building 23.G21
University of Wollongong
Northfields Avenue
Wollongong NSW 2522.
T: 0412 291 106 |
E: gje63@uowmail.edu.au; johnmcc@uow.edu.au; Narottam_bhindi@uow.edu.au

2nd November, 2015

Dear Greg,

Thank you for your Application to Conduct Research entitled: *A Social Cognitive Investigation into Teaching Religious Education in Australian Catholic High Schools*, with schools under the auspices of Catholic Education, Diocese of Parramatta (CEDP).

The research has been approved.

This letter approves you and/or your research team to approach the principals of the schools named in your application:

- Cerdon College, Merrylands
- Xavier College, Llandilo
- St Patrick's College, Dundas
- Marian College, Kenthurst.

Please note the following points in relation to the research request:

- This approval letter must accompany any approach by your team to a school principal
- It is the school principal who will provide final permission for research to be carried out in the school
- Confidentiality needs to be observed in reporting and must comply with the requirements of the Commonwealth Privacy Amendment (Private Sector) Act 2000.
- Feedback should be provided to schools and a copy of the findings of the research forwarded to the email address shown below.

I look forward to the results of this study and wish you the best over the coming months. If you would like to discuss any aspect of this research in our diocese, please do not hesitate to contact me on 02 9407 7070 or pbarrett@parra.catholic.edu.au.

Yours sincerely,

Mr Patrick Barrett

Manager of Programs (Special Purpose)

In reply please quote:

GE15/0009

Project #2148 Elliott

Date: 23 November 2015

Mr Greg Elliott

Dear Mr Elliott

I am writing with regard to your research application received on 22/09/2015 concerning your forthcoming project titled, *A Social Cognitive Investigation into Teaching Religious Education in Australian Catholic High Schools*. You have asked approval to approach Catholic schools in the Archdiocese of Melbourne, as you wish to involve teachers.

I am pleased to advise that your research proposal is approved in principle subject to the eight standard conditions outlined below.

1. The decision as to whether or not research can proceed in a school rests with the school's principal, so you will need to obtain approval directly from the principal of the school that you wish to involve. You should provide the principal with an outline of your research proposal and indicate what will be asked of the school. A copy of this letter of approval, and a copy of notification of approval from the organisation's/university's Ethics Committee, should also be provided.
2. A copy of the approval notification from your institution's Ethics Committee must be forwarded to this Office, together with any modifications to your research protocol requested by the Committee. You may not start any research in Catholic Schools until this step has been completed.
3. A *Working with Children* (WWC) check – or registration with the Victorian Institute of Teaching (VIT) – is necessary for all researchers visiting schools. Appropriate documentation must be shown to the principal before starting the research in the school.
4. No student is to participate in the research study unless s/he is willing to do so and informed consent is given in writing by a parent/guardian.
5. Any substantial modifications to the research proposal, or additional research involving use of the data collected, will require a further research approval submission to this Office.
6. Data relating to individuals or the school are to remain confidential.

7. Since participating schools have an interest in research findings, you should consider ways in which the results of the study could be made available for the benefit of the school community.
8. At the conclusion of the study, a copy or summary of the research findings should be forwarded to Catholic Education Melbourne. It would be appreciated if you could submit your report in an **electronic format** using the email address provided below.

I wish you well with your research study. If you have any queries concerning this matter, please contact Ms Shani Prendergast at apr@ceomelb.catholic.edu.au.

Yours sincerely

Mr Jim Miles
DIRECTOR ENTERPRISE SERVICES



PT:jw E.2.8.4

24 September 2015

Greg Elliott

Email: gje63@uowmail.edu.au

Dear Greg

Thank you for your application to approach schools in the Diocese of Lismore in order to conduct a research study entitled *A Social Cognitive Investigation into Teaching Religious Education in Australian Catholic High Schools*.

As the information supplied appears to have covered all the criteria for a research project required by this office I am happy to formally give approval for your research as detailed. However, the principal of each school has the responsibility to give approval to proceed at the local school level.

I confirm that research approval specifies agreement to:

- provide the Catholic Schools Office Lismore with a copy of the research findings;
- provide participating schools with a summary of the research findings;
- permit following consultation, wider dissemination of the research findings by the Catholic Schools Office, Lismore.

I look forward to hearing the outcomes of this important work.

Wishing you every success in your study,

Yours sincerely

DMPaul Thornton
Assistant Director
Education Services

7 October 2015

Greg Elliott
School of Education
University of Wollongong

Dear Mr Elliott,

Re: Research Project Application: A Social Cognitive Investigation into Teaching Religious Education in Australian Catholic High Schools.

Thank you for your completed Research Application Form requesting permission to conduct the above research in our schools.

I am pleased to advise that permission is granted to conduct your research in the following schools in the Diocese of Broken Bay:

St Peter's Catholic College, Tuggerah
St Leo's Catholic College, Wahroonga

However, kindly note that participation is entirely at the discretion of each school principal.

I would appreciate your forwarding the findings of your research once completed so that the Broken Bay system, as well as the participating schools, can benefit from this research.

I wish you well in this project.

Sincerely,

Dr Tony Bracken
Assistant Director
School Improvement



Catholic Education Archdiocese of Brisbane

teaching • challenging • transforming

ALL CORRESPONDENCE:

Brisbane Catholic Education
GPO Box 1201
Brisbane QLD 4001
Phone: (07) 3033 7000
Fax: (07) 3844 5101
www.bne.catholic.edu.au
ABN 49 991 006 857



OFFICE LOCATIONS:

Dutton Park

243 Gladstone Road
Phone: (07) 3033 7000

West End

199 Montague Road
Phone: (07) 3033 7000

North Lakes

12 Endeavour Blvd
Phone: (07) 3490 1700

Springwood

5-7 Laurinda Crescent
Phone: (07) 3440 7900

Fr Bernard O'Shea Inservice Centre, Wilston

19 Lovedale St
Phone: (07) 3033 7111

Ngutana-Lui Aboriginal and Torres Strait Islander Cultural Studies Centre, Inala

100 Lilac St
Phone: (07) 3033 7200

A11.096 id:cf ref:191

4 November 2015

Mr Greg Elliott
c/- University of Wollongong
School of Education Faculty of Social Science
Building 67 333 Northfields Ave
Wollongong NSW 2522

Email gje63@uowmail.edu.au

Dear Mr Elliott

The Brisbane Catholic Education Research Committee has met and considered your application to conduct the research, titled "*A Social Cognitive Investigation into Teaching Religious Education in Australian Catholic High Schools.*" Approval was granted by the committee for this research to be conducted.

You will need to provide the principals of the schools that you have nominated a copy of this approval letter as evidence that your research request has been approved.

Please note that participation in your project is at the discretion of the principal. Should the schools you have nominated not wish to participate, please advise this office the names of any replacement schools that you wish to approach before contacting them.

It is a requirement of all researchers to provide a full report to Brisbane Catholic Education when finalised. Reference number 191 has been allocated to your project please quote this when making contact with this office.

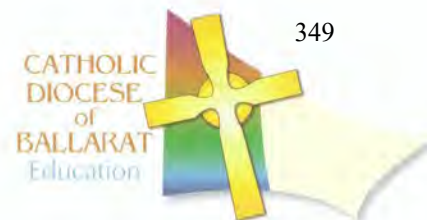
If you have any further queries, please contact me on 3033 7546.

Best wishes for the successful completion of your research project.

Yours sincerely

Ian Davis
Special Project Officer
Catholic Education
Archdiocese of Brisbane

Copy Profsssor John McCormick - johnmcc@uow.edu.au



22 September 2015

Mr Gregory Elliott

Dear Mr Elliott

I am in receipt of your application requesting the participation of Catholic schools in the Diocese of Ballarat in your Research Project: ***A Social Cognitive Investigation into Teaching Religious Education in Australian Catholic High Schools.***

I am pleased to advise that on the basis of information you have provided I grant permission for you to approach the Principals of our schools seeking their involvement in the project. You will understand that many requests are made to our schools and I am conscious of the time commitment required by participants. With this in mind I stress that the decision as to whether or not to participate rests with the individual Principals.

The following general conditions apply to all persons/institutions conducting research in schools in the Diocese of Ballarat:

- 1) The decision as to whether or not your research can proceed in a school rests with the School Principal. For each school in which you wish to do the research, you must obtain approval directly from the School Principal.
- 2) You are requested to provide the Principal with an outline of your research proposal and the likely time that participation in the research project will demand. A copy of notification of approval from the appropriate Ethics Committee should also be provided to the participating school.
- 3) A Criminal Record check is necessary for all researchers visiting schools and should be shown to the Principal before starting research in each school.
- 4) No student is to participate in your research study unless s/he is willing to do so and permission is given by a parent/guardian. Sufficient information must be provided to enable a parent/guardian to make an informed decision. Permission to participate would generally be indicated by means of a consent form, signed by a parent/guardian and returned to the school. You are requested to liaise with the School Principal to assist in the writing of a letter to parents/guardians regarding information about the research project.
- 5) You are requested to forward a list of schools/participants to this office.
- 6) Any substantive modifications to the research proposal or additional research involving use of the data collected will require a further research approval submission to this office.
- 7) Data relating to individual students or schools is to remain confidential.
- 8) I will look forward to receiving a copy of the research findings and would expect that you offer such results to participating schools.

I take this opportunity to wish you success with your research project.

Yours sincerely

John Meneely
Acting Director of Catholic Education

ABN: 45 121 091 506

PO Box 576 Ballarat Victoria 3353

Tel. (03) 5337 7135

Fax. (03) 5331 5166

Email: director@ceoballarat.catholic.edu.au



www.ceoballarat.catholic.edu.au



Catholic Education Office
DIOCESE OF BATHURST

28 September 2015

Mr Greg Elliott

Dear Greg,

Thank you for your application to conduct research within the Diocese of Bathurst. I understand you would like to contact schools within the Diocese of Bathurst in order to conduct the study titled "*A Social Cognitive Investigation into Teaching Religious Education in Australian Catholic High Schools*". Approval is hereby given for you to conduct this study.

The schools nominated for the study include MacKillop College Bathurst, St Johns College Dubbo, and St Matthews Catholic School Mudgee, within the Diocese of Bathurst.

Since we have already received the signed necessary forms we will notify the schools and advise the Principals of our preliminary approval. You now have permission to approach the Principals of the schools. As you no doubt appreciate, it is the prerogative of any Principal whom you might approach to decline your invitation to be involved in this study or to withdraw from involvement at any time.

The privacy of the school and that of any school personnel or students involved in your study must, of course, be preserved at all times and comply with requirements under the Commonwealth Privacy Amendment (Private Sector) Act 2000.

It is a condition of approval that when your research has been completed you will forward a summary report of the findings and/or recommendations to this office as soon as practicable after results are to hand.

Please do not hesitate to contact me at this office if there is any further information you require. I wish you well in this undertaking and look forward to learning about your findings.

Yours sincerely,

~

Mrs Jenny Allen
Executive Director of Schools



6 October 2015

Mr Gregory Elliot

Dear Mr Elliott

I am writing in response to your request to undertake research titled *A Social Cognitive Investigation into Teaching Religious Education in Australian Catholic High Schools*.

Your request has been approved subject to the following:

1. The Principal gives final permission for research to be carried out in his/her school. This letter of approval should accompany any approach to schools or teachers.
2. If the schools are located in the ACT and the research is qualitative in nature, meaning that contact, however minimal, with a student will occur even if just to visit a classroom, the researcher must apply for and satisfactorily receive a Working With Vulnerable People Background Check prior to conducting the research. The background check required is the one for volunteers which means that there is no cost to the researcher to obtain this check. Please visit the ACT Office of Regulatory Services' website on <http://www.ors.act.gov.au/> and click the 'forms' button and the Working With Vulnerable People, Volunteers link to access the registration process for the background check.
3. For research conducted in New South Wales Schools, please go to the NSW 'Working With Children Check' website at <https://check.kids.nsw.gov.au> and complete in the volunteer declaration. This task will be required by all researchers in NSW regardless of the nature of the research. Applications are free and are submitted electronically.
4. Mrs Williams is to be contacted immediately should your research differ in any way from that proposed.
5. Confidentiality of findings and anonymity of students is adhered to. The research must comply with the requirements of the Commonwealth Privacy Amendment (Private Sector) Act 2000.
6. That upon completion of your research a copy of your report is forwarded to me.

Mrs William's contact details are:

Telephone: (02) 6234 5408

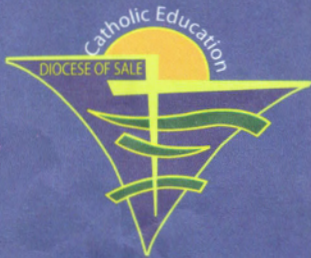
Fax: (02) 6234 5496

Email: maree.williams@cg.catholic.edu.au

Yours sincerely



Maira Najdecki
Director



CATHOLIC EDUCATION OFFICE

DIOCESE OF SALE

353

15 October 2015

Mr Gregory Elliott

Dear Gregory

Re: Research in Catholic Schools in the Diocese of Sale

Thank you for your emailed application dated 22 September 2015 in which you have requested permission to conduct a research project entitled *A Social Cognitive Investigation into Teaching Religious Education in Australian Catholic High Schools* involving Catholic secondary schools from the Diocese of Sale.

I am happy for you to approach these schools in this diocese. It is important that you understand that the final permission for you to undertake this work rests with the Principal.

This *in principle* approval is subject to the attached *Research in Catholic Schools – Standard Conditions*. In particular, please note items 3 and 4 which state that participation in the survey must be sought from participants on an 'opt in' basis. Further, it is a requirement for researchers working on a one-to-one basis with children in schools, to present a current *Working With Children Check* (item 4) to the school principal.

Should you require further information please contact Marg Shiels at this Office, email mshiels@ceosale.catholic.edu.au or phone 5622 6648.

With best wishes

Yours sincerely

Maria Kirkwood
DIRECTOR OF CATHOLIC EDUCATION
DIOCESE OF SALE

Faith ... Learning ... Growth



Diocese of Wagga Wagga
Catholic Schools Office

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PO Box 1012 (205 Tarcutta St) 2650 | Telephone: (02) 6937 0000 | Fax: (02) 6921 2986 | Email: cso-office@www.catholic.edu.au

19 October 2015

Gregory Elliott

Dear Gregory

Thank you for your application to conduct research in the Diocese of Wagga Wagga. I note you wish to invite both St Francis De Sales Regional College and Marian Catholic College to participate in your research proposal titled "A Social Cognitive Investigation into Teaching Religious Education in Australian Catholic High Schools."

Standard practice in the Catholic Schools Office, Wagga Wagga regarding research in schools is that as Director of Schools, I leave it to the principals of each of the schools nominated as to the participation of the schools themselves.

I look forward to reading the outcomes of the research and wish you all the best with the project.

Yours sincerely

Alan Bowyer
Director of Schools

Appendix 3

Letter of Request to Catholic School Principals

Letters of Instruction to RECs

"

Rct vlek cpv kph to cvkq'Uj gg'

XX XXXXXX XXXXXX
Principal
XXXXXXXXXX
XXXXXXXXXX
XXXXXXXXXX



SURVEY OF YOUR TEACHERS OF RELIGIOUS EDUCATION

Dear XXXXXXXXXXXX,

I am writing to ask your approval for some important research to be conducted with your teachers of Religious Education. I am part of a research team studying the self-efficacy of RE teachers in Catholic High Schools through the University of Wollongong as part of a PhD. The Church places great importance on the role of the Catholic school in supporting parents in educating their children in faith. As such, the work and capacity of RE teachers is critical to this aspect of the apostolic mission of our Catholic schools.

This research has already been approved by all of the Catholic Dioceses sampled in the study.

The research will involve your RE teachers completing an anonymous, online questionnaire about their beliefs about their capacity to teach RE, about their RE team and about their spirituality. The survey should take no more than 30 minutes to complete, and there is only one free response question. Teachers will also be invited to participate in a phone interview, however, this is voluntary.

If you consent to us proceeding with the research in your school **please pass the second page of this letter on to your Religious Education Coordinator (or leader of the RE team)**. Could you please ask the leader of your RE Team to complete the school profile and distribute the survey link to the RE team by **February 12 2016**?

Participation in this research is entirely voluntary, and you, or your teachers can withdraw your participation at any time without penalty.

This study has been reviewed by the Human Research Ethics Committee (Social Science, Humanities and Behavioural Science) of the University of Wollongong. If you have any concerns or complaints regarding the way this research has been conducted, you can contact the UoW Ethics Officer on (02) 4221 3386 or email rso-ethics@uow.edu.au.

Thank you for considering participating in this important project. A digital version of this letter has been emailed to enquiries@loretotoorak.vic.edu.au.

Yours sincerely,

A handwritten signature in black ink that reads "G. Elliott".

Greg Elliott
Doctoral Student
Mb
gje63@uowmail.edu.au

SURVEY OF TEACHERS OF RELIGIOUS EDUCATION AT XXXXXXXXXXXXXXXX

Research conducted by Greg Elliott (gje63@uowmail.edu.au). Phone: 0412 291 106
 Supervised by Prof John McCormick (johnmcc@uow.edu.au)
 School of Education. Faculty of Social Sciences. University of Wollongong

Dear Religious Education Coordinator,

You have received this information sheet as the leader of the RE team at your school because your principal has given approval for your RE Team to be involved in this research. The researchers are asking you to help facilitate the research project with your RE team. This research focuses on how teachers in your team approach their work, and comes from an understanding of how important that work is to your students and to the Catholic Church. Thank you for your interest in this research.

WHAT IS BEING ASKED OF YOU: You are also asked to complete a brief online REC Questionnaire about your team and your school. The REC Questionnaire should take no more than 5 minutes.

RE Leader Questionnaire: <https://www.surveymonkey.com/r/Team-Leader-RE>

You are also being asked to forward the link to the RE Teacher Questionnaire (below) to all the members of your Religious Education team at your school, and to remind them of the timeframe for completion of the online questionnaire. The data that is collected in the RE Teacher Questionnaire will be anonymous and securely stored. The RE Teacher Questionnaire should take no more than 30 minutes to complete. Please provide a copy of the information sheet (over the page) to each RE teacher.

RE Teacher Questionnaire: <https://www.surveymonkey.com/r/Teacher-RE>

Please complete the RE Leader Questionnaire by **12 February, 2016** and ask teachers to complete the RE Teacher Questionnaire by **4 March, 2016**.

BENEFITS: Although you may not experience any immediate benefits from participating in this research, the results will be useful as we seek to continually improve the preparation and support of religious education teachers in Catholic schools.

CONFIDENTIALITY: When you follow the link to the REC Questionnaire, all of your responses will be confidential. This REC Questionnaire is about the demographic details of your school and the RE teachers who teach high school RE. This demographic questionnaire is not anonymous, as you will be identifying yourself and identifying your school. However, the information in this demographic survey is not sensitive and does not relate to the quality of your work. Your school and team details will not be identified in any published work.

ETHICS REVIEW AND COMPLAINTS This study has been reviewed by the Human Research Ethics Committee (Social Science, Humanities and Behavioural Science) of the University of Wollongong. If you have any concerns or complaints regarding the way this research has been conducted, you can contact the UoW Ethics Officer on (02) 4221 3386 or email rso-ethics@uow.edu.au.

Thank you.

Greg Elliott
 Lead Researcher



A social cognitive investigation into teaching Religious Education in Australian Catholic High Schools

Research conducted by Greg Elliott (gje63@uowmail.edu.au)
Supervised by Prof John McCormick (johnmcc@uow.edu.au)
School of Education. Faculty of Social Sciences. University of Wollongong

Dear Participant,

You have been given this information sheet by your Religious Education Coordinator because you are a member of the RE team at your school. This research focuses on how you approach your work and comes from an understanding of how important that work is to your students and to the Catholic Church. This research is part of a PhD degree. Thank you for your interest in this research.

AIM: Religious Education (RE) is the reason for the existence of Catholic schools in Australia. This research seeks to examine the work of Catholic high school teachers who are teaching RE.

WHAT IS BEING ASKED OF YOU: You are invited to participate in an online questionnaire about teaching religious education. The questionnaire should take no more than 30 minutes.

Example questionnaire items:

Rate your confidence (0% to 100%) that you can do this:

"In my Religion class I can bring my students to a deeper personal relationship with Christ."

"In my Religion class I can teach students to pray"

Rate the degree to which you agree with this statement:

"Students have a certain amount of faith, and you really can't do much to change it."

Rate your agreement with this statement:

"When I am faced with an important decision, my spirituality is always the overriding consideration."

At the conclusion of the questionnaire, you will be invited to participate in a follow-up telephone interview which should take no more than 20 minutes. This telephone interview will be recorded for the purposes of preparing a written transcript. It will then be deleted. The written transcript will not include any identifying information about you and will be securely stored for five years by the University of Wollongong and then destroyed.

BENEFITS: Although you may not experience any immediate benefits from participating in this research, the results will be useful as we seek to continually improve the preparation and support of religious education teachers in Catholic schools.

CONFIDENTIALITY AND ANONYMITY: When you follow the link to the questionnaire that your REC will email to you, all of your responses will be anonymous and we will not ask for your name, only the school at which you teach. If you would like to be involved in the follow up telephone interview, we will then ask for your email address so we can contact you.

Your consent to participate in the RE Teacher Questionnaire is tacit, in that we will not collect your name. This means, however, that your data cannot be removed from the research after the questionnaire has been completed because your data will not be identified as yours. The data will be stored for five years by the University of Wollongong, and then destroyed.

ETHICS REVIEW AND COMPLAINTS: This study has been reviewed by the Human Research Ethics Committee (Social Science, Humanities and Behavioural Science) of the University of Wollongong. If you have any concerns or complaints regarding the way this research has been conducted, you can contact the UoW Ethics Officer on (02) 4221 3386 or email rso-ethics@uow.edu.au

Appendix 4

Survey Instrument



A social cognitive investigation of teaching Religious Education

RE Teacher Questionnaire V4 15-08-2015

Research conducted by Greg Elliott (gje63@uowmail.edu.au)

Supervised by Prof John McCormick (johnmcc@uow.edu.au)

School of Education. Faculty of Social Sciences. University of Wollongong

Please read the acknowledgement below:

You should previously have been given information about this research conducted by Greg Elliott which is part of a Doctor of Philosophy degree supervised by Professor John McCormick, in the School of Education in the Faculty of Social Sciences at the University of Wollongong.

In the research information given to you, you have been advised of the potential burdens associated with this research, namely the time it will take you to complete (less than 30 minutes).

In this survey, the term Religious Education means the formal curriculum related to Catholic studies in a Catholic High School. In some Dioceses, Religious Education is called Religious Studies, Studies of Religion or Catholic Studies.

You understand that results will be anonymous, and only the school at which you teach will be identified. The reason we identify your RE team will be to enable the researchers to analyse the data from your team.

You understand that your participation in this research is voluntary, you are free to refuse to participate and you are free to withdraw from the research at any time. Your refusal to participate or your withdrawal of consent will not affect your treatment in any way or affect your relationship with your school or your relationship with the University of Wollongong. Because you do not enter your name in this questionnaire, your consent is tacit. This means that we cannot remove your data after it is submitted, because your data will not be identified as yours.

If you have any enquiries about the research, you can contact Greg Elliott or John McCormick via the email addresses above, or if you have any concerns or complaints regarding the way the research is or has been conducted, you can contact the Ethics Officer, Human Research Ethics Committee, Office of Research, University of Wollongong on 0242 21 3386 or email rso-ethics@uow.edu.au.

By ticking the option below, you are indicating your consent to the data you enter in this online form being used in the research project. You understand that the data collected from your participation will be used in a PhD Thesis and other academic publications.

If you have read this statement and consent to your participation, please click below to continue.

- ☐ I give my consent to participate in this research
- ☐ I do not wish to participate in this research

**UNIVERSITY OF
WOLLONGONG****A social cognitive investigation of teaching Religious
Education****RE Teacher Questionnaire V4 15-08-2015**

Please write your school's name.

Please write your school's suburb.

Please select your school's Diocese from the drop down list below.

What is your gender?

☐ Female

☐ Male

Are you Catholic?

☐ Yes

☐ No

How many years have you been teaching Religious Education?

How many years have you been teaching Religious Education in this school?

What is your highest level of RE or Religion Studies or Theology qualifications?

- ☐ None
- ☐ Certificate of Religious Education or Religious Studies
- ☐ Bachelors Degree Minor in RE or Theology
- ☐ Bachelors Degree Major in RE or Theology
- ☐ Graduate Diploma in RE or Theology
- ☐ Masters Degree in RE or Theology
- ☐ PhD or Doctor of Theology or Doctor of Education in RE or Theology

Are you accredited by your diocese to teach Religious Education?

- ☐ Yes
- ☐ No

**SECTION A**

In this survey Religious Education means the formal curriculum related to Catholic studies in a Catholic High School. In some dioceses, Religious Education is called Religious Studies, Studies of Religion or Catholic Studies.

The following items are specifically about YOUR WORK AS A TEACHER in your Religious Education classes. There are no correct or incorrect answers. Please mark the percentage that best represents how confident you are that you can carry out each activity.

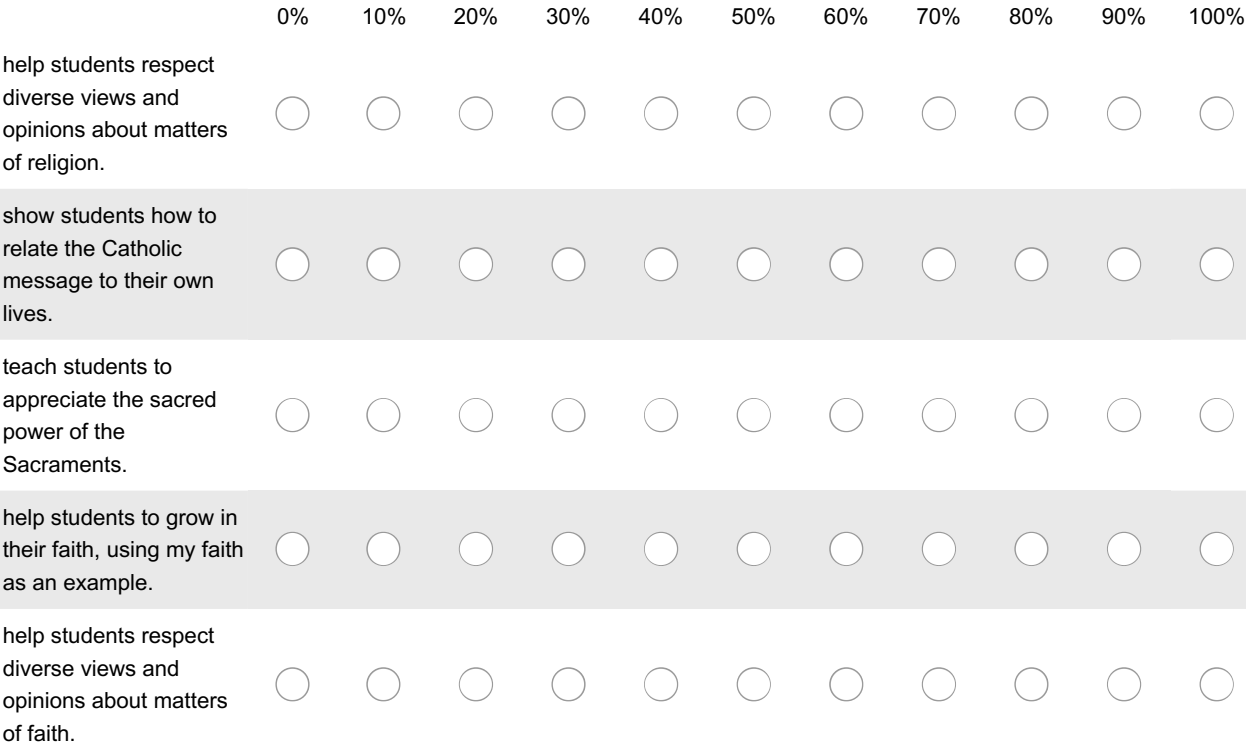
For example, if you are completely confident that you can carry out the activity, mark 100%. If you have no confidence that you can carry out the activity, mark 0%. If your confidence lies somewhere in between, then please mark the percentage that most closely matches your confidence.

Please try to answer every item.

"In my Religious Education class, I can..."

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
help students to make sense of everyday life experience through the Catholic faith.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
encourage students to appreciate mystery and awe in their everyday life experience.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
teach students that the Catholic Scriptures are the revelation of God.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
help students make connections between biblical teachings and their own lives.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
teach students to value the Catholic tradition.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
bring students to a deeper personal relationship with Christ.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
celebrate the life of the risen Christ with my students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
develop a love of liturgy in my students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
develop a love of the Eucharist in my students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
teach students to value the Sacraments as a source of God's grace.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
show students that I am a witness to the risen Christ.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
share my personal relationship with Christ with my students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
help students to develop solidarity with people suffering injustice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
encourage students to act for charity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
encourage students to act for justice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
show students how to look beyond the human view of the world to a transcendent view.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
teach students the doctrines contained in the Catechism of the Catholic Church.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
teach students how to recognise the activity of God in their lives.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
teach students how to respond to the activity of God in their lives.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
teach students how to access the Scriptures confidently.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
teach students to recall important Scripture passages.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
teach students to pray.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
engage students in RE, regardless of their faith background.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
teach students about the central doctrines of the Catholic faith.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
teach students about the central dogmas of the Catholic faith.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>





SECTION B

The following items are specifically about the activities of the Religious Education Team AS A WHOLE. There are no correct or incorrect answers. Please mark the percentage that best represents how confident you are that your Religious Education Team as a whole can carry out each activity.

For example, if you are completely confident that your Religious Education Team can carry out the activity, mark 100%. If you have no confidence that your Religious Education Team can carry out the activity, mark 0%. If your confidence lies somewhere in between, then please mark the percentage that most closely matches your confidence.

Please try to answer every item.

"The RE Team in which I work can..."

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
develop quality teaching and learning programs for RE.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
develop quality resources for the RE programs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
design learning experiences for RE that are relevant to students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
design learning experiences for RE that are rigorous.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
design learning experiences for RE that nurture students' faith.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
provide opportunities for meaningful prayer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
provide opportunities for students to develop a love of liturgy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
collaborate on planning for RE.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
articulate the Catholic vision of the school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
mutually support the team to nurture the spirituality of RE teachers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
act for social justice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
implement quality assessment in RE.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
develop a strategic vision for RE in the school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
motivate RE teachers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
support teachers new to RE teaching.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
use data to improve student learning in RE.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
promote RE as a high-quality subject.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
inspire students to participate in RE activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
conduct high-quality retreat programs for students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
celebrate the Catholic tradition.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
respond to charitable appeals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
cooperate on the continuous improvement of RE programs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
manage student records in RE.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
report learning achievement in RE to parents.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
create a culture of high expectations in RE.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
encourage the team in their work as RE teachers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
cooperate on innovative approaches to teaching RE.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



SECTION C

Consider the six statements below in terms of your beliefs about students learning Religious Education. Indicate the degree to which you agree with each of the statements.

	Strongly Agree 1	2	3	4	5	Strongly Disagree 6
Students have a certain amount of ability in RE and you really can't do much to change it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ability in RE is something about students that you can't change very much.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students can learn new things in RE, but you can't really change their basic ability in RE.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students have a certain amount of faith, and you really can't do much to change it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Faith is something about students that you can't change very much.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students can have faith experiences, but we can't really change their basic faith.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



SECTION D

For the following six questions, spirituality is defined as one's relationship to God, or whatever you perceive to be Ultimate Transcendence. The questions use a sentence completion format to measure various attributes associated with spirituality. An incomplete sentence fragment is provided, followed directly below by two phrases that are linked to a scale ranging from 0 to 10. The phrases, which complete the sentence fragment, anchor each end of the scale.

The 0 to 6 range provides you with a continuum on which to reply, with 0 corresponding to absence or zero amount of the attribute, while 6 corresponds to the maximum amount of the attribute. In other words, the end-points represent extreme values, while 3 corresponds to a medium, or moderate, amount of the attribute.

Please select the number along the continuum that best reflects your initial feeling.

In terms of the questions I have about life, my spirituality answers...

no questions 0		1		2		3		4		5		absolutely all my questions 6
<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>

Growing spiritually is...

more important than anything else in my life 6		5		4		3		2		1		of no importance to me 0
<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>

Spirituality is...

the master
motive of
my life,
directing
every
other
aspect
of my life

6

5

4

3

2

1

not part
of my
life

0

☐☐☐☐☐☐☐

When I am faced with an important decision, my spirituality...

plays
absolutely
no role

0

1

2

3

4

5

is
always
the
overriding
consideration

6

☐☐☐☐☐☐☐

When I think of things that help me to grow and mature as a person, my spirituality...

has no
effect
on my
personal
growth

0

1

2

3

4

5

is
absolutely
the most
important
factor
in my
personal
growth

6

☐☐☐☐☐☐☐

My spiritual beliefs affect...

absolutely
every
aspect
of my
life

6

5

4

3

2

1

no
aspects
of my
life

0

☐☐☐☐☐☐☐

**UNIVERSITY OF
WOLLONGONG****A social cognitive investigation of teaching Religious
Education****RE Teacher Questionnaire V4 15-08-2015****THANK YOU!**

Thank you for your participation in this research. It is intended that the results will be useful in assisting Catholic schools in supporting the professional development of RE teachers and RE teams.

Is there anything else you would like to add about your experience of being a Religious Education teacher?

INVITATION TO BE INTERVIEWED

The researchers invite you to participate in a 20 minute follow up interview about being a Religious Education Teacher. You will not be identified in relationship to your answers in this survey, nor will you be identified in any publication of this research.

If you would be interested, please enter your email address below, and we will be in contact with you.

What is your email address?

Appendix 5
Sample Descriptive Tables

RE Teacher Sample Statistics

Table 1

RE Teacher Descriptives

	Frequency	Percent	Cumulative Percent
Female	195	63.1	63.1
Male	114	36.9	100
Total	309	100	
Catholic	283	91.6	91.6
Non-Catholic	26	8.4	100
Total	309	100	
No RE Qualifications	87	28.2	28.2
Certificate of RE	81	26.3	54.5
Graduate Diploma of RE	43	14	68.5
Bachelors Degree Minor	21	6.8	75.3
Bachelors Degree Major	28	9.1	84.4
Masters Degree or higher	48	15.6	100
Total	308	100	

Table 2

RE Teacher Experience

	n	Min	Max	Mean	S.D
Years' RE Experience	309	0	50	12.18	11.51
Years' RE Experience in current school	309	0	37	6.51	6.94

RE Team Statistics

Table 3

RE Team School Types

	Frequency	Percent	Cumulative Percent
Co-Educational School	29	69	69
Single Sex School	13	31	100
Total	42	100	
Metropolitan School	27	64.3	64.3
Regional School	14	33.3	97.6
Remote School	1	2.4	100
Total	42	100	

Table 4

RE School and Team Statistics

	Min	Max	Mean	S.D
Team Size	4	30	17.45	6.4
RE Coordinator Experience	0	22	4.52	4.8
Meetings per School Term	1	5	2.57	1.28
ICSEA*	782	1175	1031.82	66.1
NAPLAN Aggregate**	4855	6140	5592	224
Attendance Level***	63	97	78.73	8.12

* ICSEA: Index of Community Socio-Educational Advantage. National mean=1000. National SD=100

** NAPLAN: National Assessment Program – Literacy and Numeracy. Aggregate of all Year 7 and 9 results in 2015

*** Attendance Level: Proportion of full-time students in Years 1–10, whose attendance rate is greater than, or equal to, 90 per cent in 2015

Appendix 6

*******Response Distribution Tables**

Table 5

Self-Efficacy for RE Survey Response (0 – 100) Frequency

In my Religious Education class, I can...	0	%	10	%	20	%	30	%	40	%	50	%	60	%	70	%	80	%	90	%	100	%
SE1 - help students to make sense of everyday life experience through the Catholic faith.	1	0.4	3	1.1	3	1.1	3	1.1	2	0.7	16	5.7	23	8.1	42	14.8	77	27.2	60	21.2	53	18.7
SE2 - encourage students to appreciate mystery and awe in their everyday life experience.	2	0.7	1	0.4	3	1.1	2	0.7	6	2.1	22	7.7	29	10.2	29	10.2	68	23.9	69	24.3	53	18.7
SE3 - teach students that the Catholic Scriptures are the revelation of God.	3	1.1	1	0.4	6	2.1	5	1.8	8	2.8	20	7.0	38	13.4	36	12.7	60	21.1	42	14.8	65	22.9
SE4 - help students make connections between biblical teachings and their own lives.	1	0.4	0	0.0	2	0.7	2	0.7	4	1.4	10	3.5	22	7.8	48	17.0	57	20.2	65	23.0	71	25.2
SE5 - teach students to value the Catholic tradition.	0	0.0	1	0.4	6	2.1	4	1.4	2	0.7	23	8.1	28	9.9	43	15.2	50	17.7	55	19.4	71	25.1
SE6 - bring students to a deeper personal relationship with Christ.	3	1.1	4	1.4	3	1.1	10	3.5	13	4.6	36	12.7	34	12.0	46	16.3	56	19.8	39	13.8	39	13.8

In my Religious Education class, I can...	0	%	10	%	20	%	30	%	40	%	50	%	60	%	70	%	80	%	90	%	100	%
SE7 - celebrate the life of the risen Christ with my students.	3	1.1	2	0.7	7	2.5	8	2.8	13	4.6	24	8.5	29	10.2	57	20.1	52	18.3	38	13.4	51	18.0
SE8 - develop a love of liturgy in my students.	3	1.1	5	1.8	11	3.9	12	4.3	24	8.5	37	13.1	37	13.1	50	17.7	49	17.4	33	11.7	21	7.4
SE9 - develop a love of the Eucharist in my students.	5	1.8	5	1.8	13	4.6	11	3.9	29	10.3	32	11.3	42	14.9	54	19.1	44	15.6	25	8.9	22	7.8
SE10 - teach students to value the Sacraments as a source of God's grace.	4	1.4	2	0.7	6	2.1	14	4.9	23	8.1	33	11.7	37	13.1	45	15.9	64	22.6	26	9.2	29	10.2
SE11 - show students that I am a witness to the risen Christ.	4	1.4	3	1.1	5	1.8	9	3.2	5	1.8	23	8.2	25	8.9	24	8.5	49	17.4	55	19.5	80	28.4
SE12 - share my personal relationship with Christ with my students.	2	0.7	6	2.1	7	2.5	5	1.8	9	3.2	13	4.6	17	6.0	31	11.0	43	15.2	54	19.1	96	33.9
SE13 - help students to develop solidarity with people suffering injustice.	0	0.0	0	0.0	1	0.4	2	0.7	4	1.4	7	2.5	15	5.3	24	8.5	57	20.1	75	26.5	98	34.6
SE14 - encourage students to act for charity.	0	0.0	0	0.0	0	0.0	1	0.4	1	0.4	6	2.1	12	4.2	21	7.4	46	16.2	82	28.9	115	40.5

In my Religious Education class, I can...	0	%	10	%	20	%	30	%	40	%	50	%	60	%	70	%	80	%	90	%	100	%
SE15 - encourage students to act for justice.	0	0.0	0	0.0	0	0.0	1	0.4	3	1.1	5	1.8	8	2.8	17	6.0	45	16.0	88	31.2	115	40.8
SE16 - show students how to look beyond the human view of the world to a transcendent view.	2	0.7	0	0.0	4	1.4	5	1.8	12	4.3	17	6.0	23	8.2	46	16.3	67	23.8	60	21.3	46	16.3
SE17 - teach students the doctrines contained in the Catechism of the Catholic Church.	6	2.1	3	1.1	10	3.6	14	5.0	9	3.2	25	8.9	25	8.9	47	16.7	54	19.2	42	14.9	46	16.4
SE18 - teach students how to recognise the activity of God in their lives.	2	0.7	2	0.7	4	1.4	7	2.5	8	2.9	22	7.9	26	9.3	51	18.2	58	20.7	58	20.7	42	15.0
SE19 - teach students how to respond to the activity of God in their lives.	2	0.7	4	1.4	3	1.1	8	2.9	14	5.0	20	7.1	36	12.9	51	18.2	60	21.4	43	15.4	39	12.6
SE20 - teach students how to access the Scriptures confidently.	1	.04	1	0.4	3	1.1	7	2.5	8	2.9	18	6.5	21	7.5	36	12.9	51	18.3	61	21.9	72	25.8
SE21 - teach students to recall important Scripture passages.	3	1.1	1	0.4	8	2.8	15	5.3	12	4.3	16	5.7	41	14.6	41	14.6	64	22.8	40	14.2	40	14.2
SE22 - teach students to pray.	3	1.1	1	0.4	5	1.8	7	2.5	9	3.3	20	7.2	21	7.6	34	12.3	43	15.6	57	20.7	76	27.5

In my Religious Education class, I can...	0	%	10	%	20	%	30	%	40	%	50	%	60	%	70	%	80	%	90	%	100	%
SE23 - engage students in RE, regardless of their faith background.	1	0.4	0	0.0	0	0.0	5	1.8	6	2.1	12	4.3	19	6.8	24	8.6	45	16.1	61	21.8	107	38.2
SE24 - teach students about the central doctrines of the Catholic faith.	2	0.7	3	1.1	7	2.5	6	2.2	10	3.6	14	5.0	25	9.0	40	14.4	57	20.5	61	21.9	53	19.1
SE25 - teach students about the central dogmas of the Catholic faith.	0	0.7	5	1.8	8	2.9	7	2.5	14	5.0	19	6.8	31	11.1	43	15.4	61	21.9	46	16.5	43	15.5
SE26 - help students respect diverse views and opinions about matters of religion.	1	0.4	1	0.4	0	0.0	2	0.7	2	0.7	4	1.4	16	5.7	19	6.8	54	19.6	79	28.2	102	36.4
SE27 - show students how to relate the Catholic message to their own lives.	1	0.4	1	0.4	3	1.1	4	1.4	5	1.8	14	4.9	17	6.0	37	13.1	61	21.6	77	27.2	63	22.3
SE28 - teach students to appreciate the sacred power of the Sacraments.	3	1.1	2	0.7	6	2.1	11	3.9	19	6.7	27	9.5	33	11.7	48	17.0	62	21.9	43	15.2	29	10.2
SE29 - help students to grow in their faith, using my faith as an example.	3	1.1	5	1.8	4	1.4	7	2.5	13	4.6	15	5.3	22	7.8	30	10.7	63	22.4	49	17.4	70	24.9
SE30 - help students respect diverse views and opinions about matters of faith.	1	0.4	1	0.4	1	0.4	2	0.7	1	.04	9	3.2	11	3.9	20	7.1	49	17.3	91	32.2	97	34.3

Table 6

Self-Efficacy for Teaching RE Response Distribution

		SE1	SE2	SE3	SE4	SE5	SE6	SE7	SE8	SE9	SE10	SE11	SE12	SE13	SE14	SE15
N	Valid	283	284	284	282	283	283	284	282	282	283	282	283	283	284	282
	Missing	26	25	25	27	26	26	25	27	27	26	27	26	26	25	27
Mean		78.59	78.13	75.63	81.38	78.52	70.21	72.29	64.36	62.66	66.64	77.30	79.33	85.80	88.45	88.97
Std. Deviation		18.55	19.22	21.64	17.08	19.68	22.15	22.34	22.91	23.46	22.40	23.66	23.79	15.40	13.33	13.18

		SE16	SE17	SE18	SE19	SE20	SE21	SE22	SE23	SE24	SE25	SE26	SE27	SE28	SE29	SE30
N	Valid	281	280	280	279	281	276	280	278	279	280	283	283	281	283	282
	Missing	28	29	29	30	28	33	29	31	30	29	26	26	28	26	27
Mean		76.31	70.28	74.71	72.14	79.03	71.00	77.86	84.29	75.90	72.11	86.68	80.60	69.43	76.44	86.40
Std. Deviation		19.66	24.77	20.51	21.23	20.36	22.50	22.45	18.26	21.91	22.78	15.57	18.45	21.89	23.23	16.01

Table 7

Collective Efficacy for Teaching RE Survey Response (0 – 100) Frequency

The RE Team in which I work can...	0	%	10	%	20	%	30	%	40	%	50	%	60	%	70	%	80	%	90	%	100	%
CE1 - develop quality teaching and learning programs for RE.	3	1.1	2	0.7	3	1.1	4	1.5	3	1.1	13	4.9	20	7.5	37	13.9	57	21.3	63	23.6	62	23.2
CE2 - develop quality resources for the RE programs.	1	0.4	3	1.1	1	0.4	7	2.6	4	1.5	11	4.1	17	6.4	45	16.9	60	22.5	56	21.0	62	23.2
CE3 - design learning experiences for RE that are relevant to students.	0	0.0	4	1.5	3	1.1	2	0.7	6	2.2	17	6.3	15	5.6	36	13.4	63	23.5	62	23.1	60	22.4
CE4 - design learning experiences for RE that are rigorous.	1	0.4	6	2.3	2	0.8	5	1.9	7	2.6	14	5.3	29	10.9	36	13.5	62	23.3	52	19.5	52	19.5
CE5 - design learning experiences for RE that nurture students' faith.	0	0.0	4	1.5	2	0.7	7	2.6	10	3.7	11	4.1	26	9.7	37	13.8	67	25.0	60	22.4	44	16.4
CE6 - provide opportunities for meaningful prayer.	0	0.0	5	1.9	2	0.7	3	1.1	6	2.2	14	5.2	27	10.1	36	13.4	64	23.9	52	19.4	59	22.0

The RE Team in which I work can...	0	%	10	%	20	%	30	%	40	%	50	%	60	%	70	%	80	%	90	%	100	%
CE7 - provide opportunities for students to develop a love of liturgy.	0	0.0	7	2.6	4	1.5	11	4.1	12	4.5	19	7.1	28	10.5	49	18.4	54	20.2	44	16.5	39	14.6
CE8 - collaborate on planning for RE.	2	0.7	4	1.5	1	0.4	4	1.5	7	2.6	9	3.4	22	8.2	33	12.4	51	19.1	62	23.2	72	27.0
CE9 - articulate the Catholic vision of the school.	2	0.7	2	0.7	0	0.0	5	1.9	2	0.7	15	5.6	18	6.7	28	10.4	53	19.8	73	27.2	70	26.1
CE10 - mutually support the team to nurture the spirituality of RE teachers.	1	0.4	4	1.5	1	0.4	4	1.5	14	5.2	19	7.1	22	8.2	35	13.1	60	22.4	53	19.8	55	20.5
CE11 - act for social justice.	0	0.0	0	0.0	1	0.4	3	1.1	1	0.4	10	3.7	11	4.1	15	5.6	42	15.7	74	27.7	110	41.2
CE12 - implement quality assessment in RE.	2	0.7	3	1.1	2	0.7	4	1.5	6	2.2	14	5.2	17	6.3	36	13.4	51	19.0	68	25.4	65	24.3
CE13 - develop a strategic vision for RE in the school.	0	0.0	4	1.5	3	1.1	5	1.9	10	3.7	17	6.4	22	8.2	32	12.0	61	22.8	59	22.1	54	20.2
CE14 - motivate RE teachers.	2	0.7	3	1.1	2	0.7	9	3.4	4	1.5	19	7.1	25	9.3	41	15.3	50	18.7	59	22.0	54	20.1
CE15 - support teachers new to RE teaching.	1	0.4	4	1.5	1	0.4	4	1.5	8	3.0	12	4.5	23	8.6	32	12.0	45	16.9	57	21.3	80	30.0

The RE Team in which I work can...	0	%	10	%	20	%	30	%	40	%	50	%	60	%	70	%	80	%	90	%	100	%
CE16 - use data to improve student learning in RE.	2	0.8	5	1.9	6	2.3	4	1.5	11	4.1	26	9.8	32	12.0	44	16.5	49	18.4	47	17.7	40	15.0
CE17 - promote RE as a high-quality subject.	3	1.1	3	1.1	3	1.1	3	1.1	4	1.5	17	6.3	25	9.3	38	14.2	54	20.1	53	19.8	65	24.3
CE18 - inspire students to participate in RE activities.	2	0.7	2	0.7	2	0.7	4	1.5	8	3.0	14	5.2	32	12.0	32	12.0	69	25.8	54	20.2	48	18.0
CE19 - conduct high-quality retreat programs for students.	6	2.2	3	1.1	4	1.5	5	1.9	1	0.4	17	6.3	15	5.6	29	10.8	50	18.7	60	22.4	78	29.1
CE20 - celebrate the Catholic tradition.	0	0.0	2	0.8	2	0.8	0	0.0	6	2.3	14	5.3	18	6.8	26	9.8	61	22.9	59	22.2	78	29.3
CE21 - respond to charitable appeals.	2	0.7	1	.04	1	0.4	0	0.0	2	0.7	9	3.4	12	4.5	17	6.3	38	14.2	75	28.0	111	41.4
CE22 - cooperate on the continuous improvement of RE programs.	2	0.7	5	1.9	2	0.7	4	1.5	6	2.2	16	5.9	24	8.9	27	10.0	51	19.0	64	23.8	68	25.3
CE23 - manage student records in RE.	1	0.4	3	1.1	1	0.4	2	0.8	4	1.5	9	3.4	16	6.0	33	12.4	47	17.7	62	23.3	88	33.1
CE24 - report learning achievement in RE to parents.	0	0.0	5	1.9	3	1.1	2	0.7	3	1.1	10	3.7	21	7.9	27	10.1	43	16.1	69	25.8	84	31.5

The RE Team in which I work can...	0	%	10	%	20	%	30	%	40	%	50	%	60	%	70	%	80	%	90	%	100	%
CE25 - create a culture of high expectations in RE.	3	1.1	5	1.9	3	1.1	2	0.8	5	1.9	19	7.1	31	11.7	35	13.2	46	17.3	52	19.5	65	24.4
CE26 - encourage the team in their work as RE teachers.	0	0.0	7	2.6	2	0.7	1	0.4	6	2.2	9	3.4	24	9.0	34	12.7	46	17.2	67	25.1	71	26.6
CE27 - cooperate on innovative approaches to teaching RE.	1	0.4	4	1.5	2	0.7	9	3.4	7	2.6	15	5.6	23	8.6	35	13.1	60	22.5	62	23.2	49	18.4

Table 8

Collective Efficacy for Teaching RE Response Distribution

	CE1	CE2	CE3	CE4	CE5	CE6	CE7	CE8	CE9	CE10	CE11	CE12	CE13	CE14
N Valid	267	267	268	266	268	268	267	267	268	268	267	268	267	268
Missing	42	42	41	43	41	41	42	42	41	41	42	41	42	41
Mean	79.36	79.33	79.44	76.43	76.68	78.21	71.91	80.15	81.53	76.60	87.57	79.74	77.34	76.60
Std. Deviation	20.24	19.40	19.35	21.02	19.83	19.71	22.20	20.56	19.01	20.81	15.48	20.31	20.50	21.13

	CE15	CE16	CE17	CE18	CE19	CE20	CE21	CE22	CE23	CE24	CE25	CE26	CE27
N Valid	267	266	268	267	268	266	268	269	266	267	266	267	267
Missing	42	43	41	42	41	43	41	40	43	42	43	42	42
Mean	80.34	72.11	78.13	76.93	79.40	82.29	87.16	78.88	83.20	82.36	77.03	80.37	76.74
Std. Deviation	20.64	22.25	21.03	19.71	23.14	17.88	17.01	21.52	18.69	19.79	22.09	20.314	20.89

Table 9

Teacher Intrinsic Spirituality – Response Frequency as Percentages

IS1 - In terms of							
questions I have about	no questions	1	2	3	4	5	absolutely all
my life, my spirituality							my questions
answers...	0						6
	6.5	1.5	4.6	22.8	33.5	25.9	5.3
IS2 - Growing	more						
spiritually is...	important than						of no
	anything else	5	4	3	2	1	importance
	in my life						to me
	6						0
	8.0	28.5	32.3	19.8	8.0	1.1	2.3

IS3 - Spirituality is...	the master motive of my life, directing every other aspect of my life	5	4	3	2	1	not part of my life
	6						0
		10.3	20.2	31.9	27.0	6.5	2.3
							1.9
IS4 – When I am faced with an important decision, my spirituality...	plays absolutely no role	1	2	3	4	5	is always the overriding consideration
	0						6
		3.0	3.8	2.7	16.3	25.9	38.8
							9.5
IS5 – When I think of things that help me to	has no effect on my	1	2	3	4	5	is absolutely the more

grow and mature as a	personal							important
person, my	growth							factor in my
spirituality...	0							personal
								growth
								6
	2.3	1.1	4.2	14.8	30.4	33.8		13.3
IS6 – My spiritual	absolutely							
beliefs affect...	every aspect							no aspects of
	of my life	5	4	3	2	1		my life
	6							0
	14.8	28.5	29.7	17.5	5.3	2.3		1.9

Table 10

RE Teacher Intrinsic Spirituality

		IS1	IS2	IS3	IS4	IS5	IS6
N	Valid	263	263	263	263	263	263
	Missing	46	46	46	46	46	46
Mean		3.74	3.96	3.86	4.13	4.25	4.16
Std. Deviation		1.41	1.26	1.28	1.36	1.27	1.33

Table 11

RE Teacher Implicit Theories – Response Frequency as Percentages

	Strongly Agree 1	2	3	4	5	Strongly Disagree 6
IT1 - Students have a certain amount of ability in RE and you really can't do much to change it.	0.8	2.7	8.8	11.5	34.0	42.4
IT2 - Ability in RE is something about students that you can't change very much.	1.1	2.3	5.0	11.1	35.6	44.8
IT3 - Students can learn new things in RE, but you can't really change their basic ability in RE.	1.2	5.0	4.6	13.1	33.2	42.9
IT4 - Students have a certain amount of faith, and you really can't do much to change it.	1.9	4.5	13.3	19.3	28.8	32.2

IT5 - Faith is something about students that you can't change very much.	0.4	5.3	15.9	19.7	30.3	28.4
IT6 - Students can have faith experiences, but we can't really change their basic faith.	1.5	8.7	13.6	22.7	29.9	23.5

Table 12

RE Teacher Implicit Theories – Distribution Statistics

		IT1	IT2	IT3	IT4	IT5	IT6
N	Valid	262	261	259	264	264	264
	Missing	47	48	50	45	45	45
Mean		5.02	5.12	5.01	4.65	4.59	4.41
Std. Deviation		1.12	1.07	1.18	1.28	1.22	1.30

Appendix 7

Open Ended Comments and Categorisation

Appendix 7. Open-Ended Comments and Categorisation

Respondents were invited to answer an optional question at the end of the survey: “Is there anything else you would like to add about your experience as an RE teacher?”. Sixty-four teachers responded.

Table 13

Verbatim Responses to the Open-Ended Question

Teacher ID	Comment
91	<p>Why do we teach religion? It is important to a small percentage of students and students in general don't care about religion classes. The catholic faith has a huge potential to engage students on real and contemporary matters in society and yet it hardly ever covered in course content. We should be teaching out students how to appreciate faith and how to turn appreciation into action by getting them into the community. Our students live in such a sheltered bubble when only 30 mins drive from our school there are people living in poverty they are completely unaware of. The teaching part is easy, its relaying the connection that's difficult. If it were up to me, I'd structure religious education to include weekly seminars where guest speakers talk to our students about appreciation in action, or our student do community service. I believe they would learn 1000% more from being in the community than they ever could from reading from the bible. I am a Catholic and have a strong faith in my religion and community, but in 2016 the challenge is conveying this to a student audience that is so unaware of their surrounds. We can only do</p>

Teacher ID	Comment
	so much as a religion teacher or teacher in general. I believe you can't change a view of religion without changing the community view. As a college yes we have social justice groups and support Vinnies Van, Caritas etc but as a college community in the grand scheme of things we don't really do much at all so how can we expect our students to do much if we don't lead by example. We have a real opportunity as a community to change a blind generation. Lets hurry up and do it!
21	what are 'Catholic Scriptures'? I gave up on the questions as they were repetitive and I could not really make sense of the series about students and their 'RE' ability. regards, Christopher
226	There needs to be much more support for teachers beginning to teach RE. There is a lot of assumed knowledge and understanding, and even for those with a strong faith and theological background how this translates to teaching in the classroom needs much greater attention.
264	There needs to be more support for leaders of Religious Education in schools - HoCs or Program Leaders etc. Because of the role or status of RE in schools, these leaders are often under-supported while dealing with disillusioned or disinterested teachers in their department.
281	There is still this misguided idea that a) RE Teachers have to pray with the students every lesson, Students still believe that RE is about indoctrination and faith conversion. RE Text books still assume that all our students are good little Catholics who pray the rosary and go to mass every Sunday No where do

Teacher ID	Comment
	we discuss why the God the Father Jesus Christ Holy Spirit is not doing much of a job in helping!!! As far as I am concerned the last place a student is going to find Jesus is in a compulsory classroom with a zealot for a teacher!! Sorry just venting
155	There are no designated RE teachers in my school. All RE teachers belong to another KLA and THEN the RE KLA. This influences staff's participation in the RE KLA. Many of the students are "culturally" Catholic not "spiritually" Catholic. The influence of the crime group Ndrangheta within the Catholic community may skew your results. There is also a double standard with regard to Non-Catholics teaching in Catholic Schools which may have influenced my results.
38	The curriculum that NSW allows, does not provide enough scope to allow for experience and exploring students faith in a non-academic sense.
211	The Certificate in Religious Education should be continually offered and financially supported throughout the Diocese, to demonstrate that these qualifications are valued. Expecting staff to complete and pay for a Grad Cert in RE as a baseline qualification is ridiculous.
94	Thank you. I am really enjoying RE and would definitely like to do further study to assist me in the future.
217	Teaching VCE - Religion and Society I have a Curriculum that must be followed.

Teacher ID	Comment
218	<p>Teaching Religious Education to students keeps me teaching. (when I've been very close to changing careers) For me, my RE teaching is a REAL vocation. I enjoy the challenge the spirit sapping secular world presents and want to bring/remind what our Catholicism/Christianity can offer. I get to know the students more and feel I can make a real impact in their life.</p>
35	<p>Teaching Religious Education is something I find incredibly rewarding</p>
71	<p>Students don't engage with the RE program because they believe it is dry and have no relevance to their lives. I am approaching the RE course with the idea that RE will affect their everyday life. What we learn in RE has everything to do with faith, spirituality, our relationships with God and other people. The students may learn scientific and mathematical concepts but they will not use it in everyday life. What they will use in everyday life is living in relationships with others. If they can understand this then RE maybe viewed as an important subject to grasp.</p>
77	<p>Specifically where I teach many parents do not support the RE staff as they see RE as a subject that isn't important. It also must be noted that I disagreed with the questions earlier in the survey that asked about my personal faith and how it impacts my life. I feel a good teacher does not influence students by their own opinions. I turn on the light for my students but I don't tell them what to see.</p>
269	<p>Some teachers need to me more innovative with their choice of activities in order to appeal to younger students.</p>

Teacher ID	Comment
326	<p>Some of the topics which we need to teach are very dry. The subject is one which most students struggle to enjoy either because they have no Religious Beliefs or because they are too ashamed to admit to them. If the topics covered could be totally relevant and target their own spirituality I think that it could make teachers role more relevant. Students often say how is this important in my future career. We need to help them understand that it is important in their future as a person. This is an area we touch on in an airy fairy way. I would like to see it the central theme of all RE programs and topics taught.</p>
63	<p>Religious Education is a very specific subject which limits it to teachers who have the faith or want to do it to give some 'realness' to the subject. However I feel that we are not supported religiously, pastorally and professionally. Perhaps there is support but limited. Everyone does their own thing and it is quite sad that we, as RE teachers, don't give this rich faith witness to each other as colleagues first, how can the teaching of RE be meaningful or truthful in terms of evangelisation in Catholic Schools. I am passionate about my faith and proud to be an RE teacher and persevere everyday to teach my students about the person of Jesus. I would like to share it with other passionate RE teachers (if they are out there)</p>
46	<p>Our school recently employed a new director of religious education. My confidence in the faculty's ability to fix the problems we face is not reflected in the answers given. Our previous leader was academically unqualified and had</p>

Teacher ID	Comment
	only primary school experience. He favoured a laissez-faire approach that lead to the faculty stagnating. The new leader is a different story altogether.
233	<p>One of the biggest challenges as an RE teacher is often our colleagues who are not Catholic who are working in our catholic schools. The culture of the school, led by the staff, has a huge impact on how students perceive and approach the formal Religious Curriculum as well as engage in faith development experiences and mission work. My experience is that many staff who do not teach Religion tend to publicly devalue it as a subject. In my experience, most staff and students see Religion as a subject they are forced to teach/ study. A great percentage of teachers are not willing to teach this subject and will do anything they can to not have this as part of their allocation. I teach Religion, PDHPE, VET Hospitality, Food Technology and Junior Technology Mandatory and my favourite subject to teach is Religion. I personally really enjoy teaching the historical, geographical, political and archeological nature of our faith. It is a true blessing and a privilege to be able to open the eyes and hearts of our students to the wonder and awe of our faith. Teaching Studies of Religion is also an incredibly enjoyable, challenging and valuable subject. Religion plays a huge role in our society whether our staff choose to acknowledge this or not; history, artwork, literature and political events etc. We have a collective responsibility to help our young people to further develop a worldview of religion and understand and challenge their own worldview including their own faith beliefs. This aspect of working and teaching in a</p>

Teacher ID	Comment
	<p>catholic school challenges me the most. Some staff want the comfort and luxury of working in a catholic school but do not support the ethos and the doctrine of why we exist as a catholic school. I consider myself an avid learner however I feel it is very difficult to find great professional development aimed at improving the quality of our teaching in RE. It is a huge jump moving from Certificate RE Qualification to Post Grad and Masters levels subjects not to mention the time and money involved. I have completed a Masters in Education (over 10 years ago) in Language and Literacy and found it to be very relevant to the quality of my teaching. To be honest, I had commenced a post graduate Masters Levels subject in Theology last year and found it useless and as a result have chosen to not pursue further studies in Theology at this point in time. I feel my time and money will be better spent elsewhere to help improve my teaching. I wish you the best of luck with your study and your Ph.D Journey.</p>
290	<p>Not all students I teach are Catholic therefore it is not my place to change students' faith in religion. However, I do try to help students expand their acceptance and knowledge of faith.</p>
283	<p>My experience as Religious Education teacher has been an amazing and rewarding experience. Evangelization can change lives.</p>
31	<p>Most staff are not trained in Teaching Religious Education...they do not have the background to confidently express the key teachings and doctrines and they can choose to learn more to be able to do it. It's like teaching Shakespeare</p>

Teacher ID	Comment
	<p>for the first time, there is a lot you need to know to be able to successfully explain it, there is even more that you need to know and internalize to foster a love of Shakespeare in your students that impacts them for ever. In in RE you have to teach Christian/Catholic and than a wide range of other religions as well...there is a lot to know. But the same teaching methods and practices from all other subjects should be applied...you don't need special tricks, just good content and confidence and the ability to express and demonstrate faith and spirituality lived. As most staff don't have faith or spirituality it is up to the ADMIN to give the subject to the right people and support and prepare them properly.</p>
262	Lots of joys but also many challenges in this day and age.
43	it's one of the greatest area of teaching that you can be involved with, it's a priviledge to be able to do it.
61	<p>It is privilege to teach RE to young people - it can help shape their lives and it is the place where they have most of their questions. It is important that we are the best possible face of the faith for them - we need to be non-judgemental, open, reflective, contemporary, fair and just in how we approach every lesson. It is often the lessons taught here that last a lot longer than many other subject areas - for the better or the worse.</p>
304	<p>It is important to establish honest relationships with students and acknowledge that faith is a journey and asking questions is very much a human activity. The importance of recognising divergent views and understandings even within the</p>

Teacher ID	Comment
	Catholic tradition is important and offers reassurance to many students who are still developing their own beliefs.
293	It is extremely difficult to balance the academic side of RE that we are expected to teach, and the spiritual side that I want students to experience
254	it is exciting
229	It is difficult approaching RE with some student attitudes that are heavily influence by their upbringing and background (i.e. home and family life). In some cases more support is needed from parents and the community to develop an understanding of the role of religious education in school and student development for both their learning growth, self awareness and spiritual development.
202	It is challenging, but exciting! The integration of faith and life as a 'whole' rather than as two separate entities is essential for effective RE teaching. The integration of personal faith into the delivery of engaging learning is vital as this personal conviction is what drives the aspiring RE teacher in his/her mission.
190	It is a very rewarding experience. It has developed in me a passion to help others. I am a better listener. I also enjoy the class discussions.
258	It is a privilege to be a face of the Church with young people.
208	It can be highly rewarding subject if you understand the content you are teaching. Too often it is taught by teachers as a fill in subject with no desire to understand or deliver with enthusiasm the content they are meant to teach.

Teacher ID	Comment
	Without the motivation of the teachers the spiritual growth of the student never really gets past the crossword and colouring in stage of their primary days. Therefore when it becomes time to teach them how it can transform you they have no understanding of what the Religion even is yet.
104	it can be challenging, but also very rewarding to develop an understanding of the human nature of students in this subject area
314	It can be a struggle to have the subject valued equally with others by both the parents and other staff within the school.
74	Importance of having quality PD to challenge my understanding and provide depth
138	I would like to comment about a couple of your questions involving retreat experiences - these are not necessarily something the RE Teachers are involved in. Many larger schools today have a Director of Mission (or similar title) who is responsible for retreats. In addition, the Pastoral Care Team has a role to play in the participation and delivery of retreat programs. In some instances, outside facilitators are also used.
73	I was not comfortable answering the questions relating to ability in RE and Faith in RE as I believe I can nurture faith but don't believe as teacher I can alter a student's strength or otherwise of their faith.
332	I was a member of a religious order for 15 years I am in my fourth year of the Sydney Archdiocese Diaconal Program I am a member of the knights of the Holy Sepulchre

Teacher ID	Comment
206	I thoroughly enjoy being a religious education teacher, I find it aid me in my own faith !
250	I think some of your questions in the first section (e..g. teach students to value the Catholic tradition) are not for me to answer. I can't assess a "value" placed on something by a student. If you had asked me if I thought it was IMPORTANT to teach students to value something, than I would 100% agree. Any questions in that section that were not marked at the top of the provided scale, means I don't believe I can answer fully. Good luck with your studies.
278	I teach almost exclusively in senior classes and thus many of the questions relating to particularly Catholic faith and life (doctrine / dogma / sacraments) etc. are not frequently dealt with
306	I love teaching religion. I have nearly completed my masters in religious education and that has given me confidence and further knowledge. I enjoy some of the really deep conversations that I have with students and you know that you are helping them find their own spiritual identity.
274	I have thoroughly enjoyed 35 years of teaching students about Religion
239	I have found that those with higher degrees usually can't teach it.
323	I have found it difficult as a teacher to demonstrate your faith with the overwhelming presence of a culture removing itself from religious values.
135	I find it a rewarding subject to teach as it allows students the time and space to think about things beyond their academic life. I have found that all of students, who I have taught, to be interested in at least some of the topics covered. Many

Teacher ID	Comment
	of them have spoken to me at the end of the year saying how much they have enjoyed the class. I believe that the topics I teach provide an opportunity for the Spirit to work in the students. I am happy to allow the Spirit to work at his own pace - I am not there to make the students develop their faith - My lessons provide an invitation to faith development.
65	I feel that RE classes should be based on academia and not on student faith. It would be unfair to students from different religious backgrounds otherwise.
230	I feel as though across all Diocese's there needs to be more professional development. Also as a department it needs to be given greater resources and consideration as to who teaches the subject, not just whoever can fill in the blanks.
315	I enjoy teaching RE and developing curriculum material that will meet syllabus requirements and engage students. But I think that there is often a lack of interest from some teachers who have been given an RE class they don't want and do not want to work collaboratively to improve outcomes.
109	I did not answer three questions about "ability of a student in RE". I don't believe it makes sense to talk about the "ability" of an RE student.
98	I am relishing the chance to teach within a Catholic school in my first year of teaching. It is an area that I am very passionate about - and where I seek to keep on growing and learning in. Though I have not completed a formal certificate in RE studies, my experience of introductory RE study as well as my time working in youth ministry with young people continually aids my

Teacher ID	Comment
	<p>focus: asking God to guide and direct my efforts, as well as my heart, to support my students' own growth and learning.</p>
187	<p>I am passionate about this! It is my life passion and source for a lot of my reading, discussions and studies...even though not formal qualifications beyond certificates. I am and have been part of many spiritual and discussion groups including Ignatian spirituality, RCIA, Institute for Parish Ministry, CLC and others. Was also thrilled to be part of a CEO Syd Pilgrimage through Italy for the canonisation of Popes John 23rd and John-Paul 2-which was SO life-giving and food for the soul! One day I would love to stay in the Holy Land and experience the gospel context</p>
261	<p>I am growing 'spiritually' each day with my family, colleagues and students.... I am blessed to be a Religious educator...</p>
48	<p>I am finding it increasingly difficult to teach Religious Education. It is not that the students are not engaged, they really are, but I am finding the subject matter and topics tedious and arduous, although as a professional I try to show the appearance of being a positive RE teacher and work hard for the students. Professionally, I am concerned with my lack of enthusiasm for the subject. I feel so much more confident, happy and less anxious teaching my other method areas.</p>
245	<p>I am excited and passionate about being a member of the RE team at my school. I work with many enthusiastic people who are like-minded in their faith and in their deeply personal faith journeys. I don't have to apologise for</p>

Teacher ID	Comment
	being Christian, working in a Catholic school. I aspire to be a faith-filled person who gently lives her life without being dogmatic in my approach. I am hoping my spirituality and faith shine through in all I do and say!
316	I am aware when I am teaching RE that I have a very special opportunity to share my faith with the students. It is a humbling experience. I want the students to see that Christ showed us how to live and in the Catholic faith they can experience real peace and ways to solve the problems they will face - how to find a friend.
171	I am always prepared to challenge the prevailing attitude that religion is irrelevant in the lives of our students, that a philosophical approach to the big questions is perhaps a more acceptable approach, that religiosity (values) have arisen in our culture out of 'religious' thinking/origins.
130	hard
197	Frequently I find the hypocrisy and duplicity of the Catholic Education system so opposed to the tenants of the Catholic faith, that I wonder how the system survives and more particularly how a system that is supposed to be based on the Catholic faith can treat their staff as they do. Perhaps it is just this region.
243	Enfaithing lessons are far more effective than rigorous academic ones. When students develop a disposition towards God then they will want to know about God. The old saying is still so true; Faith is Caught, not Taught. Teachers with an active faith commitment should be the priority placement in staffing a timetable - they model the faith.

Teacher ID	Comment
227	<p>Currently at our school we have a good teacher of RE teachers, who have a range of experiences and qualifications, and enjoy supporting one another.</p> <p>There are plenty of open discussions. But what is missing is the lack of knowledge we have of the RE discipline. When we teacher in the discipline in which we are trained in, we are confident in what we are doing. Also keep in mind, people became, a Maths, English etc teacher because of their love of learning in that given discipline.</p>
334	<p>Catholic School RE teaching I think seeks to put a lot of "Catholic" information on top of almost no foundation of individual or family faith. My focus is to try to bring kids into relationship with Jesus Christ alongside the RE curriculum. Sacraments and other doctrine/dogma can have a lot of meaning when one has a personal relationship with Jesus but not much without that relationship.</p>
111	<p>As I am a member of both a senior and middle school RE team with 2 different co-ordinators and teachers I answered the question on my involvement with the senior school co-ordinator and teachers. It was very difficult as a number of teachers in the middle school are not of a faith background and the perception of the subject is one of having to do rather than wanting.</p>

Table 13

First cycle coding with 105 codes

Code
action learning
teacher as learner
relevance of RE
no collaboration
God the Father
unenthusiastic teachers
exploring faith non-academically
know the kids
zealot teachers
rewarding
teach values
faith-filled teachers
students asking questions
pastoral teachers run praxis
excited
hypocritical
can't rate values
untrained teachers
apathetic students
RE must be academic only

Code

engaged students

non-spiritual teachers

autonomous (go it alone) teachers

unsupported teachers

love

personal relationship with Jesus

unchurched students

assumes socialised Catholics

need more support

staff culture

personal conviction of teacher

student spirituality

other staff devalue RE

teacher as witness

balance academic and spiritual

RE teachers do not lead retreats

passionate

teach contemporary ethics

vocational teachers

hard

more innovative activities

curriculum restrictions

Code

supportive team

RE curriculum

stagnant faculty

target students' spirituality

questing students

education in faith

non-specialist teachers

difficult

non-judgemental teachers

challenge prevailing perception of RE

dry topics

unmotivated teachers

staff culture

blessed / blessing

quals do not improve teaching

growing spiritually

comfortable school but don't support the ethos

disengaged students

Self-directed PD

ashamed of faith

joy

challenge

Code

faithless students

community service

real impact in their life

new REC

invitation to faith development

need support for quals

Jesus

Can't answer about RE ability

RE teachers' deep understanding

not dogmatic

enthusiastic teachers

blind generation

open their eyes

the face of the Church

faith cannot be taught

Bible based learning

indoctrination

relevant teachers

Holy Spirit

teachers don't change faith

RE as personal development

Holy Trinity

Code

privilege

enfaithing lessons work best

can't change students' faith

Won't answer personal spirituality

mission leader runs praxis

sad

pray every lesson

coerced teachers

no belief

unsupportive system

RE as transformation

non-Catholic teachers

models of faith

good collaboration

conversion

leadership / REC

hard to demonstrate faith

more resources

increasingly difficult

Table 14

Second cycle of coding and categorisation

Category
Code
RE teacher type binaries
enthusiastic/unenthusiastic
vocational/coerced
collaborative/go-it alone
contextual/irrelevant
RE teacher attitudes
Privileged
Challenged
Passionate
RE teacher training
untrained/non-specialist
teacher as learner
want deep understanding
qualifications
RE teacher support
need greater support
need better resources
need supportive system
need support for qualifications

Category
RE teacher spirituality binaries
Catholic/non-Catholic
faith-filled/secular
RE teacher spirituality
teacher as witness/face of church/model
personal conviction growth
not dogmatic/zealot
hard to demonstrate faith
Staff culture
need a supportive culture
RE team binaries
collaborative/uncollaborative
dynamic/stagnant
RE leadership binaries
strong/weak
capable/incompetent
Student attitudes
apathetic/disengaged
reject indoctrination
engaged in life-centred learning
Student spirituality
no belief/faithless

Category
<p>questing</p> <p>unchurched</p> <p>Impact of RE</p> <p>cannot/should not change faith</p> <p>invitational RE</p> <p>relationship with Jesus is required</p> <p>positive impact on lives of students</p> <p>RE content</p> <p>assumes socialised Catholics</p> <p>dry/irrelevant</p> <p>should be academic only</p> <p>balance academic and spiritual</p> <p>should be enfaithing</p> <p>teach contemporary ethics/values/issues</p> <p>restrictive curriculum</p> <p>RE objectives</p> <p>Transformation</p> <p>personal development</p> <p>target students' spirituality</p> <p>RE pedagogy</p>
<p>questioning and enquiry</p> <p>action learning/service</p>

Category

don't pray every lesson

innovative activities

not Bible based learning

Table 15

Categorisation of Open Ended Comments

Category
Comment
RE teacher type binaries
As far as I am concerned the last place a student is going to find Jesus is in a compulsory classroom with a zealot for a teacher
There are no designated RE teachers in my school
All RE teachers belong to another KLA and THEN the RE KLA
For me, my RE teaching is a REAL vocationtrained/untrained
Religious Education is a very specific subject which limits it to teachers who have the faith or want to do it to give some 'realness' to the subject
In my experience, most staff and students see Religion as a subject they are forced to teach/ study
Most staff are not trained in Teaching Religious Education
they do not have the background to confidently express the key teachings and doctrines
As most staff don't have faith or spirituality it is up to the ADMIN to give the subject to the right people and support and prepare them properly.
we need to be non-judgemental, open, reflective, contemporary, fair and just in how we approach every lesson
Too often it is taught by teachers as a fill in subject with no desire to understand or deliver with enthusiasm the content they are meant to teach
Without the motivation of the teachers the spiritual growth of the student never really gets past the crossword and colouring in stage of their primary days
consideration as to who teaches the subject, not just whoever can fill in the blanks.
there is often a lack of interest from some teachers who have been given an RE class they don't want

Category

Teachers with an active faith commitment should be the priority placement in staffing a timetable - they model the faith

It was very difficult as a number of teachers in the middle school are not of a faith background and the perception of the subject is one of having to do rather than wanting

RE teacher attitudes

The teaching part is easy, its relaying the connection that's difficult dealing with disillusioned or disinterested teachers in their department.

Teaching Religious Education is something I find incredibly rewarding

I am passionate about my faith and proud to be an RE teacher and persevere everyday to teach my students about the person of Jesus

It is a true blessing and a privilege to be able to open the eyes and hearts of our students to the wonder and awe of our faith

Teaching Studies of Religion is also an incredibly enjoyable, challenging and valuable subject

This aspect of working and teaching in a catholic school challenges me the most

My experience as Religious Education teacher has been an amazing and rewarding experience

Lots of joys but also many challenges in this day and age
it's a privilege to be able to do it.

It is privilege to teach RE to young people
it is exciting

It is challenging, but exciting!

It is a very rewarding experience

It is a privilege to be a face of the Church with young people.

It can be highly rewarding subject if you understand the content you are teaching
it can be challenging, but also very rewarding

It can be a struggle

I thoroughly enjoy being a religious education teacher

Category

I love teaching religion

I enjoy some of the really deep conversations that I have with students

I have thoroughly enjoyed 35 years of teaching students about Religion

I have found it difficult as a teacher to demonstrate your faith with the overwhelming presence of a culture removing itself from religious values

I find it a rewarding subject to teach

I enjoy teaching RE and developing curriculum material that will meet syllabus requirements and engage students

I am relishing the chance to teach within a Catholic school in my first year of teaching

It is an area that I am very passionate about

I am passionate about this! It is my life passion

I am blessed to be a Religious educator...

I am finding it increasingly difficult to teach Religious Education

as a professional I try to show the appearance of being a positive RE teacher and work hard for the students

I am concerned with my lack of enthusiasm for the subject. I feel so much more confident, happy and less anxious teaching my other method areas

I am excited and passionate about being a member of the RE team at my school

It is a humbling experience

hard

I find the hypocrisy and duplicity of the Catholic Education system so opposed to the tenants of the Catholic faith

RE teacher training

The Certificate in Religious Education should be continually offered and financially supported throughout the Diocese

Expecting staff to complete and pay for a Grad Cert in RE as a baseline qualification is ridiculous

would definitely like to do further study to assist me in the future.

Category

I consider myself an avid learner

it is very difficult to find great professional development aimed at improving the quality of our teaching in RE

I had commenced a post graduate Masters Levels subject in Theology last year and found it useless and as a result have chosen to not pursue further studies in Theology at this point in time

Importance of having quality PD to challenge my understanding and provide depth

I have nearly completed my masters in religious education and that has given me confidence and further knowledge

I have found that those with higher degrees usually can't teach it

I feel as though across all Diocese's there needs to be more professional development

Though I have not completed a formal certificate in RE studies, my experience of introductory RE study as well as my time working in youth ministry with young people continually aids my focus

It is my life passion and source for a lot of my reading, discussions and studies...even though not formal qualifications beyond certificates

When we teach in the discipline in which we are trained in, we are confident in what we are doing

RE teacher support

There needs to be much more support for teachers beginning to teach RE

There needs to be more support for leaders of Religious Education in schools

these leaders are often under- supported

we are not supported religiously, pastorally and professionally

Perhaps there is support but limited

as a department it needs to be given greater resources

need support for qualifications

RE teacher spirituality binaries

I am a Catholic and have a strong faith in my religion and community

Category

There is also a double standard with regard to Non-Catholics teaching in Catholic Schools

you don't need special tricks, just good content and confidence and the ability to express and demonstrate faith and spirituality lived

As most staff don't have faith or spirituality it is up to the ADMIN to give the subject to the right people and support and prepare them properly.

The integration of personal faith into the delivery of engaging learning is vital personal conviction is what drives the aspiring RE teacher in his/her mission

It has developed in me a passion to help others. I am a better listener

I find it aids me in my own faith!

asking God to guide and direct my efforts, as well as my heart, to support my students' own growth and learning

I am growing 'spiritually' each day with my family, colleagues and students

I aspire to be a faith-filled person who gently lives her life without being dogmatic in my approach

I am hoping my spirituality and faith shine through in all I do and say!

I am aware when I am teaching RE that I have a very special opportunity to share my faith with the students

Local culture

I believe you can't change a view of religion without changing the community view many parents do not support the RE staff as they see RE as a subject that isn't important

One of the biggest challenges as an RE teacher is often our colleagues who are not Catholic who are working in our catholic schools

My experience is that many staff who do not teach Religion tend to publicly devalue it as a subject

The culture of the school, led by the staff, has a huge impact on how students perceive and approach the formal Religious Curriculum

do not support the ethos and the doctrine of why we exist as a catholic school

Category

It is difficult approaching RE with some student attitudes that are heavily influence by their upbringing and background

In some cases more support is needed from parents and the community to develop an understanding of the role of religious education in school

It can be a struggle to have the subject valued equally with others by both the parents and other staff within the school

I have found it difficult as a teacher to demonstrate your faith with the overwhelming presence of a culture removing itself from religious values

seeks to put a lot of "Catholic" information on top of almost no foundation of individual or family faith

RE team binaries

Everyone does their own thing and it is quite sad

it is quite sad that we, as RE teachers, don't give this rich faith witness to each other as colleagues first

some teachers who have been given an RE class they don't want and do not want to work collaboratively to improve outcomes.

I am excited and passionate about being a member of the RE team at my school

I work with many enthusiastic people who are like- minded in their faith and in their deeply personal faith journeys

Currently at our school we have a good teacher of RE teachers, who have a range of experiences and qualifications, and enjoy supporting one another

RE leadership binaries

Our previous leader was academically unqualified and had only primary school experience. He favoured a laissez-faire approach that lead to the faculty stagnating

As most staff don't have faith or spirituality it is up to the ADMIN to give the subject to the right people and support and prepare them properly

these leaders are often under-supported while dealing with disillusioned or disinterested teachers in their department.

Student attitudes

Category

Our students live in such a sheltered bubble

Students still believe that RE is about indoctrination and faith conversion

Students don't engage with the RE program

The subject is one which most students struggle to enjoy either because they have no Religious Beliefs

In my experience, most staff and students see Religion as a subject they are forced to teach/study

A great percentage of teachers are not willing to teach this subject and will do anything they can to not have this as part of their allocation

It is difficult approaching RE with some student attitudes that are heavily influence by their upbringing and background

I have found that all of students, who I have taught, to be interested in at least some of the topics covered

Many of them have spoken to me at the end of the year saying how much they have enjoyed the class

It is not that the students are not engaged, they really are

Student spirituality

We have a real opportunity as a community to change a blind generation

Many of the students are "culturally" Catholic not "spiritually" Catholic

Not all students I teach are Catholic

it is the place where they have most of their questions

RE Text books still assume that all our students are good little Catholics who pray the rosary and go to mass every Sunday

There is still this misguided idea that RE Teachers have to pray with the students every lesson

It is important to establish honest relationships with students and acknowledge that faith is a journey and asking questions is very much a human activity

Category

The importance of recognising divergent views and understandings even within the Catholic tradition is important and offers reassurance to many students who are still developing their own beliefs
you know that you are helping them find their own spiritual identity

Impact of RE

The catholic faith has a huge potential to engage students on real and contemporary matters in society
We have a real opportunity as a community to change a blind generation
I get to know the students more and feel I can make a real impact in their life.
positive impact on lives of students
Students often say how is this important in my future career
It is often the lessons taught here that last a lot longer than many other subject areas - for the better or the worse

RE curriculum

The teaching part is easy, its relaying the connection that's difficult
There is a lot of assumed knowledge and understanding
Text books assume that all our students are good little Catholics who pray the rosary and go to mass every Sunday
The curriculum that NSW allows, does not provide enough scope to allow for experience and exploring students faith in a non-academic sense
I have a Curriculum that must be followed
Students don't engage with the RE program because they believe it is dry and have no relevance to their lives
Some of the topics which we need to teach are very dry
If the topics covered could be totally relevant and target their own spirituality I think that it could make teachers role more relevant
Religious Education is a very specific subject
In in RE you have to teach Christian/Catholic and than a wide range of other religions as well...there is a lot to know

Category

I am finding the subject matter and topics tedious and arduous

RE objectives

Why do we teach religion? It is important to a small percentage of students

As far as I am concerned the last place a student is going to find Jesus is in a compulsory classroom with a zealot for a teacher

I am approaching the RE course with the idea that RE will affect their everyday life

What we learn in RE has everything to do with faith, spirituality, our relationships with God and other people

I turn on the light for my students but I don't tell them what to see

I feel a good teacher does not influence students by their own opinions

We need to help them understand that it is important in their future as a person

We have a collective responsibility to help our young people to further develop a worldview of religion and understand and challenge their own worldview including their own faith beliefs

Not all students I teach are Catholic therefore it is not my place to change students' faith in religion

I do try to help students expand their acceptance and knowledge of faith

Evangelization can change lives

it can help shape their lives and it is the place where they have most of their questions

It is extremely difficult to balance the academic side of RE that we are expected to teach, and the spiritual side that I want students to experience

The integration of faith and life as a 'whole' rather than as two separate entities is essential for effective RE teaching

The integration of personal faith into the delivery of engaging learning is vital

I believe I can nurture faith but don't believe as teacher I can alter a student's strength or otherwise of their faith.

it allows students the time and space to think about things beyond their academic life

Category

I believe that the topics I teach provide an opportunity for the Spirit to work in the students

I am happy to allow the Spirit to work at his own pace - I am not there to make the students develop their faith

My lessons provide an invitation to faith development

I feel that RE classes should be based on academia and not on student faith. It would be unfair to students from different religious backgrounds otherwise.

I want the students to see that Christ showed us how to live and in the Catholic faith they can experience real peace and ways to solve the problems they will face - how to find a friend.

Enfaithing lessons are far more effective than rigorous academic ones

My focus is to try to bring kids into relationship with Jesus Christ alongside the RE curriculum

RE pedagogy

We should be teaching out students how to appreciate faith and how to turn appreciation into action by getting them into the community
our student do community service

I believe they would learn 1000% more from being in the community than they ever could from reading from the bible

There is a lot of assumed knowledge and understanding, and even for those with a strong faith and theological background how this translates to teaching in the classroom needs much greater attention

Some teachers need to me more innovative with their choice of activities in order to appeal to younger students

it is the place where they have most of their questions

we need to be non-judgemental, open, reflective, contemporary, fair and just in how we approach every lesson
